RC
1042
.L66
1994a

Department
nsportation
National Highway
Traffic Safety
Administsration

DOT HS 808 217

November 1994

Final Report

Final Report of a 1992 Plymouth Voyager into a 50% Left Offset Barrier in Support of CRASH3 Damage Algorithm Reformulation

This document is availalbe to the public from the National Technical Information Service, Springfield, Virginia 22161

Notice

Transportation Research Center Inc. does not endorse or certify products of manufacturers. The manufacturer's name appears solely to identify the test article. Transportation Research Center Inc. assumes no liability for the report or use thereof. It is responsible for the facts and the accuracy of the data presented herein. This report does not constitute a standard, specification, or regulation.

This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

c
12
66
994a
c.1

Technical Report Documentation Page

1. Report No.
DOT HS 808 217

2. Government Accession No.

3. Recipient's Catalog No.

4. Title and Subtitle

Final Report Of A 1992 Plymouth Voyager Into A 50% Left Offset Barrier in Support of CRASH3 Damage Algorithm Reformulation

5. Report Date

November 1994

6. Performing Organization Code

7. Author(s)

K. W. Looker, Project Engineer, TRC

8. Performing Organization Report No.
941025

9. Performing Organization Name and Address

National Highway Traffic Safety Admin.
Vehicle Research and Test Center
P. O. Box 37
East Liberty, OH 43319

10. Work Unit No. (TRAIS)

11. Contract or Grant No.
DTNH22-88-C-07292

12. Sponsoring Agency Name and Address

U. S. Department of Transportation
National Highway Traffic Safety Administration
400 Seventh St., S.W.
Washington, DC 20590

13. Type of Report and Period Covered

Final Report
Nov. - Dec. 1994

14. Sponsoring agency Code

DOT/NHTSA/VRTC

15. Supplemental Notes

16. Abstract

Five (5) 50% left offset barrier impact tests were conducted for research and development in support of the CRASH3 damage algorithm reformulation. These tests were conducted on a 1992 Plymouth Voyager, VIN 2P4GH25K8NR555705, at Transportation Research Center Inc. on October 25, 1994. The following five tests were conducted on the vehicle:

Test No.	Date	Time	Speed (kph)	Maximum Cumulative Crush (mm)
941025-1	10/25/94	0938	7.7	25
941025-2	10/25/94	1111	15.8	207
941025-3	10/25/94	1227	15.8	282
941025-4	10/25/94	1336	32.0	519
941025-5	10/25/94	1454	56.3	1016

17. Key Words

50% Left Offset Barrier Impact Tests
1992 Chevrolet Caprice
CRASH3 Damage Algorithm Reformulation

18. Distribution Statement

Document is available to the public through the National Technical Information Service Springfield, Virginia 22161

19. Security Classif. (of this report)
Unclassified

20. Security Classif. (of this page)
Unclassified

21. Number of Pages
268

22. Price

Form DOT F 1700.0 (8-72) Reproduction of completed page authorized

DEPARTMENT OF TRANSPORTATION
MAY 12 1998
NASSIF BRANCH LIBRARY

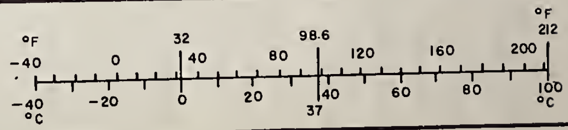
METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
		MASS (weight)		
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
		TEMPERATURE (exact)		
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
		TEMPERATURE (exact)		
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



---

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.

Table of Contents

Section	Title	Page
1.0	Purpose and Test Procedure	1-1
2.0	Vehicle and Test Data	2-1
3.0	Test No. 941025-1 Summary	3-1
4.0	Test No. 941025-2 Summary	4-1
5.0	Test No. 941025-3 Summary	5-1
6.0	Test No. 941025-4 Summary	6-1
7.0	Test No. 941025-5 Summary	7-1
Appendix A	Photographs	A-1
Appendix B	Data Plots	B-1
Appendix C	Miscellaneous Test Information	C-1

List of Tables

Number	Description	Page
1	Test Vehicle Information	2-2
2	Profile Measurements at Vehicle Bumper Height	2-5
3	Test No. 941025-1 Test Conditions	3-2
4	Test No. 941025-1 Vehicle Crush at Vehicle Bumper Height	3-3
5	Test No. 941025-1 Vehicle Measurements	3-5
6	Test No. 941025-1 Vehicle Accelerometer Locations and Data Summary	3-6
7	Test No. 941025-1 Camera Information	3-7
8	Test No. 941025-2 Test Conditions	4-2
9	Test No. 941025-2 Vehicle Crush at Vehicle Bumper Height	4-3
10	Test No. 941025-2 Vehicle Measurements	4-5
11	Test No. 941025-2 Vehicle Accelerometer Locations and Data Summary	4-6
12	Test No. 941025-2 Camera Information	4-7
13	Test No. 941025-3 Test Conditions	5-2
14	Test No. 941025-3 Vehicle Crush at Vehicle Bumper Height	5-3
15	Test No. 941025-3 Vehicle Measurements	5-5
16	Test No. 941025-3 Vehicle Accelerometer Locations and Data Summary	5-6
17	Test No. 941025-3 Camera Information	5-7

List of Tables, Cont'd.

Number	Description	Page
18	Test No. 941025-4 Test Conditions	6-2
19	Test No. 941025-4 Vehicle Crush at Vehicle Bumper Height	6-3
20	Test No. 941025-4 Vehicle Measurements	6-5
21	Test No. 941025-4 Vehicle Accelerometer Locations and Data Summary	6-6
22	Test No. 941025-4 Camera Information	6-7
23	Test No. 941025-5 Test Conditions	7-2
24	Test No. 941025-5 Vehicle Crush at Vehicle Bumper Height	7-3
25	Test No. 941025-5 Vehicle Measurements	7-5
26	Test No. 941025-5 Vehicle Accelerometer Locations and Data Summary	7-6
27	Test No. 941025-5 Camera Information	7-7

List of Figures

Number	Description	Page
1	Vehicle Accelerometer Placement	2-10
2	Camera Positions	2-11
3	Vehicle Profile At Bumper Height - Test 1	3-4
4	Vehicle Profile At Bumper Height - Test 2	4-4
5	Vehicle Profile At Bumper Height - Test 3	5-4
6	Vehicle Profile At Bumper Height - Test 4	6-4
7	Vehicle Profile At Bumper Height - Test 5	7-4

Section 1.0

Purpose and Test Procedure

Purpose and Test Procedure

The purpose of the five (5) 50% left offset barrier impact tests was for research and development in support of the CRASH3 damage algorithm reformulation.

The 1992 Plymouth Voyager was equipped with a 2.5-liter, 4-cylinder, transverse, gasoline engine with a 3-speed automatic transmission. A third axle was placed 540 mm behind the vehicle's front wheel centerline to raise the front wheels so that it could withstand five (5) impacts. The test weight of the vehicle with third axle was 1639 kilograms.

The vehicle was instrumented with eleven (11) accelerometers oriented to measure vehicle X-, Y-, and Z-axis accelerations.

Each crash test event was recorded by three (3) high-speed motion picture cameras operating at approximately 1000 frames per second.

Section 2.0

Vehicle and Test Data

Table 1 Test Vehicle Information

Vehicle Manufacturer: Chrysler Corp. Model Year: 1992
Make/Model: Plymouth/Voyager VIN: 2P4GH25K8NR555705
Body Style: Minivan Color: Blue
Engine Data: Type: Transverse Cylinders: 4 Displacement: 2.5-liter
Transmission Data: _3_ Speed, __ Manual, _X_ Automatic, _X_ Fwd, __ Rwd, __4wd
Date Vehicle Received: 10/20/94 Odometer Reading: 32,519
Dealer's Name And Address: NA

Accessories:

Power Steering	Yes	Automatic Transmission	Yes
Power Brakes	Yes	Automatic Speed Control	Yes
Power Seats	No	Tilting Steering Wheel	Yes
Power Windows	No	Telescoping Steering Wheel	No
Tinted Glass	Yes	Air Conditioning	Yes
Radio	Yes	Anti-Skid Brake	No
Clock	Yes	Rear Window Defroster	Yes
Other	None		

Remarks:

1. Is the vehicle stock throughout? Yes
2. Does vehicle show evidence of prior accident history? No
3. Does vehicle show any significant corrosion? No
4. Condition of the front/rear bumper and frame: Good

Certification Data From Vehicle's Label:

Vehicle Manufactured By: Chrysler Corp.
Date of Manufacture: 10/91 VIN: 2P4GH25K8NR555705
GVWR: 5040 lbs.
GAWR: Front: 2544 lbs., Rear: 2544 lbs.

Table 1 Test Vehicle Information, Cont'd.

Tires On Vehicle (Mfr., Line, Size): Dunlop, SP4N, P195/75R14

Tire Pressure With Maximum Capacity Vehicle Load: Front: 221 kPa
Rear: 221 kPa

Spare Tire (Mfr., Line, Size): The vehicle did not contain a spare tire.

Type Of Seats: Front: Bucket
Rear: Bench

Type Of Front Seat Backs: Adjustable

Maximum Width: 1522 mm

Wheelbase: 2847 mm

Location Of Label Stating Tire Data:

The label was located on the driver's door.

Tire & Capacity Data From Vehicle's Label:

Recommended Tire Size: P195/75R14

Recommended Cold Tire Pressure: Front: 35 psi; Rear: 35 psi

Designated Seating Capacity: 2 Front 5 Rear 7 Total

Vehicle Capacity Weight: NA lbs.

Test Vehicle Attitude (All Measurements Are In Millimeters):

Delivered Attitude: LF 744, RF 733, LR 755, RR 747

Pre-Test Attitude[1]: LF 773, RF 778, LR 770, RR 774

---

[1] Pre-test attitude measured with third axle installed.

Table 1 Test Vehicle Information, Cont'd.

Weight Of Test Vehicle As Received (With Maximum Fluids):

Right Front	454	KG	Right Rear	304	KG
Left Front	461	KG	Left Rear	291	KG
Total Front Weight	915	KG	(60.6% Of Total Vehicle Weight)		
Total Rear Weight	595	KG	(39.4% Of Total Vehicle Weight)		
Total Delivered Weight	1510	KG			

Weight Of Test Vehicle[1]:

Right Front[2]	590	KG	Right Rear	225	KG
Left Front[2]	592	KG	Left Rear	232	KG
Total Front Weight[2]	1182	KG	(72.1% Of Total Vehicle Weight)		
Total Rear Weight	457	KG	(27.9% Of Total Vehicle Weight)		
Total Test Weight[1]	1639	KG			

Weight Of Ballast Secured In Vehicle Cargo Area: 0 KG

Components Removed To Meet Target Test Weight: None

CG = 1334 MM Rearward of Front Wheel Centerline

---

[1] Weight of third axle included in total test weight.

[2] The front wheel weights are for third axle wheels.

TABLE 2 PROFILE MEAUSUREMENTS AT VEHICLE BUMPER HEIGHT 593 MM

LOCATION	0		1		2		3		4		5		6		7	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	2645	558	2567	561	2493	560	2417	563	2345	565	2267	565	2193	566	2115	568
POST-TEST 1	2645	558	2567	561	2493	560	2417	563	2345	565	2267	565	2193	566	2115	568
POST-TEST 2	2645	558	2567	561	2493	560	2417	563	2345	565	2267	565	2193	566	2115	568
POST-TEST 3	2635	555	2555	554	2482	555	2408	557	2335	561	2260	559	2182	558	2108	561
POST-TEST 4	2638	550	2560	559	2490	562	2415	554	2342	557	2270	557	2190	558	2114	558
POST-TEST 5	2646	575	2575	577	2567	490	2492	465	2419	465	2342	447	2267	443	2192	444

LOCATION	8		9		10		11		12		13		14		15	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	2041	569	1967	571	1891	572	1815	573	1740	575	1663	576	1591	578	1521	580
POST-TEST 1	2041	569	1967	571	1891	572	1815	573	1740	575	1663	576	1591	578	1521	580
POST-TEST 2	2041	569	1967	571	1891	572	1815	573	1740	575	1655	576	1584	577	1508	578
POST-TEST 3	2030	556	1958	555	1882	550	1810	563	1735	562	1656	564	1585	567	1512	567
POST-TEST 4	2042	562	1970	557	1889	558	1809	558	1734	563	1662	566	1578	564	1510	566
POST-TEST 5	2117	445	2044	446	1970	452	1895	459	1822	446	1746	469	1677	472	1621	516

LOCATION	16		17		18		19		20		21		22		23	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	1442	581	1365	566	1300	561	1222	560	1150	561	1067	563	990	567	918	571
POST-TEST 1	1442	581	1365	566	1300	561	1222	560	1150	561	1066	560	988	564	914	571
POST-TEST 2	1441	578	1364	555	1297	543	1225	534	1155	531	1077	520	1002	513	931	515
POST-TEST 3	1450	562	1380	537	1310	520	1237	507	1165	500	1087	490	1012	481	940	474
POST-TEST 4	1470	553	1394	517	1352	473	1296	425	1245	376	1172	335	1110	331	1048	360
POST-TEST 5	1616	522	1581	460	1618	384	1623	313	1626	238	1702	159	1608	102	1561	153

All measurements are in millimeters. Column readings are 75 millimeters apart starting on the left side of the vehicle.

All X-axis measurements taken from a reference plane 4718 millimeters from and parallel to the rear bumper.

All Y-axis measurements taken from a reference plane 1425 millimeters from and parallel to the vehicle's longitudinal centerline

TABLE 2 PROFILE MEAUSUREMENTS AT VEHICLE BUMPER HEIGHT 593 MM

LOCATION	24		25		26		27		28		29		30		31	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	842	579	760	595	684	582	610	593	540	605	465	623	393	649	341	697
POST-TEST 1	841	579	761	593	683	585	606	591	536	605	483	627	416	650	368	700
POST-TEST 2	856	528	780	553	743	498	677	520	607	548	540	583	474	625	441	683
POST-TEST 3	872	492	800	520	764	448	693	472	628	508	572	456	511	606	488	664
POST-TEST 4	994	402	941	461	899	412	850	456	794	497	738	546	690	598	670	667
POST-TEST 5	1516	222	1475	289	1306	339	1270	404	1223	450	1173	505	1152	578	1162	645

LOCATION	32		33		34		35		36		37		38		39	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	311	763	292	838	276	914	264	988	256	1058	249	1140	243	1211	239	1287
POST-TEST 1	309	763	293	845	284	923	279	1000	275	1068	264	1148	264	1223	264	1300
POST-TEST 2	430	759	423	832	422	913	421	981	421	1051	427	1132	450	1203	422	1275
POST-TEST 3	490	738	493	810	493	885	508	960	521	1028	531	1105	523	1181	508	1252
POST-TEST 4	674	744	687	817	703	892	726	966	746	1033	762	1112	762	1176	742	1243
POST-TEST 5	1164	721	1171	793	1188	868	1212	937	1233	1000	1251	1070	1259	1148	1250	1212

LOCATION	40		41		42		43		44		45		46		47	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	236	1363	236	1435	236	1493	238	1569	242	1641	246	1719	255	1794	267	1869
POST-TEST 1	255	1375	253	1397	249	1490	256	1568	251	1643	246	1717	258	1792	265	1869
POST-TEST 2	389	1347	374	1418	355	1468	346	1543	329	1616	312	1691	306	1765	297	1841
POST-TEST 3	493	1323	453	1390	422	1432	401	1505	380	1578	357	1650	338	1725	335	1797
POST-TEST 4	710	1309	662	1360	606	1385	551	1438	504	1493	456	1553	410	1622	362	1678
POST-TEST 5	1184	1236	1104	1255	1027	1230	951	1269	880	1297	811	1310	735	1328	667	1345

All measurements are in millimeters. Column readings are 75 millimeters apart starting on the left side of the vehicle.

All X-axis measurements taken from a reference plane 4718 millimeters from and parallel to the rear bumper.

All Y-axis measurements taken from a reference plane 1425 millimeters from and parallel to the vehicle's longitudinal centerline

TABLE 2 PROFILE MEAUSUREMENTS AT VEHICLE BUMPER HEIGHT 593 MM

LOCATION	48		49		50		51		52		53		54		55	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	273	1940	290	2016	308	2090	332	2156	383	2212	450	2238	522	2255	595	2270
POST-TEST 1	268	1937	279	2014	295	2090	320	2164	367	2220	435	2249	506	2260	575	2272
POST-TEST 2	292	1914	291	1990	303	2065	304	2138	340	2195	404	2232	476	2251	548	2260
POST-TEST 3	305	1870	297	1946	290	2024	300	2098	325	2170	390	2216	450	2250	525	2282
POST-TEST 4	315	1741	271	1807	239	1870	224	1938	215	2012	245	2076	283	2140	330	2194
POST-TEST 5	595	1376	530	1406	458	1429	402	1475	360	1537	349	1605	349	1675	347	1744

LOCATION	56		57		58		59		60		61		62		63	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	670	2281	742	2292	820	2288	891	2297	966	2303	1041	2307	1116	2311	1191	2312
POST-TEST 1	652	2275	725	2292	800	2287	873	2295	942	2304	1012	2306	1116	2311	1191	2312
POST-TEST 2	623	2272	692	2251	802	2280	875	2290	951	2305	1025	2305	1099	2305	1176	2312
POST-TEST 3	590	2302	660	2335	820	2270	890	2284	960	2292	1135	2302	1112	2305	1185	2310
POST-TEST 4	376	2247	430	2294	805	2248	877	2264	949	2276	1032	2288	1106	2299	1180	2291
POST-TEST 5	354	1814	366	1888	793	2114	863	2141	938	2162	1016	2181	1084	2214	1156	2238

LOCATION	64		65		66		67		68		69		70		71	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	1267	2310	1340	2301	1424	2282	1498	2281	1575	2283	1651	2284	1725	2287	1800	2288
POST-TEST 1	1267	2310	1340	2301	1424	2282	1498	2281	1575	2283	1651	2284	1725	2287	1800	2288
POST-TEST 2	1250	2312	1325	2308	1407	2285	1484	2278	1562	2280	1635	2286	1725	2287	1800	2288
POST-TEST 3	1260	2302	1333	2295	1415	2278	1500	2275	1575	2278	1650	2278	1725	2282	1795	2282
POST-TEST 4	1250	2307	1324	2303	1406	2288	1490	2286	1567	2292	1642	2291	1718	2310	1793	2308
POST-TEST 5	1229	2262	1291	2268	1373	2277	1493	2275	1568	2274	1644	2278	1722	2284	1795	2285

All measurements are in millimeters. Column readings are 75 millimeters apart starting on the left side of the vehicle.

All X-axis measurements taken from a reference plane 4718 millimeters from and parallel to the rear bumper.

All Y-axis measurements taken from a reference plane 1425 millimeters from and parallel to the vehicle's longitudinal centerline

TABLE 2 PROFILE MEAUSUREMENTS AT VEHICLE BUMPER HEIGHT 593 MM

LOCATION	72		73		74		75		76		77		78		79	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	1875	2290	1950	2293	2025	2295	2100	2296	2177	2298	2250	2300	2326	2300	2400	2303
POST-TEST 1	1875	2290	1950	2293	2025	2295	2100	2296	2177	2298	2250	2300	2326	2300	2400	2303
POST-TEST 2	1875	2290	1950	2293	2025	2295	2100	2296	2177	2298	2250	2300	2326	2300	2400	2303
POST-TEST 3	1870	2285	1942	2285	2020	2291	2095	2290	2170	2294	2245	2296	2320	2295	2395	2296
POST-TEST 4	1868	2306	1941	2298	2015	2302	2091	2303	2166	2303	2240	2303	2305	2310	2391	2315
POST-TEST 5	1871	2287	1945	2295	2021	2296	2096	2293	2172	2298	2250	2302	2322	2302	2397	2306

LOCATION	80		81		82		83		84		85		86		87	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	2477	2305	2550	2304	2625	2306										
POST-TEST 1	2477	2305	2550	2304	2625	2306										
POST-TEST 2	2477	2305	2550	2304	2625	2306										
POST-TEST 3	2470	2300	2545	2298	2620	2298										
POST-TEST 4	2465	2314	2540	2313	2618	2313										
POST-TEST 5	2474	2307	2547	2308	2628	2306										

LOCATION	88		89		90		91		92		93		94		95	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST																
POST-TEST 1																
POST-TEST 2																
POST-TEST 3																
POST-TEST 4																
POST-TEST 5																

All measurements are in millimeters. Column readings are 75 millimeters apart starting on the left side of the vehicle.

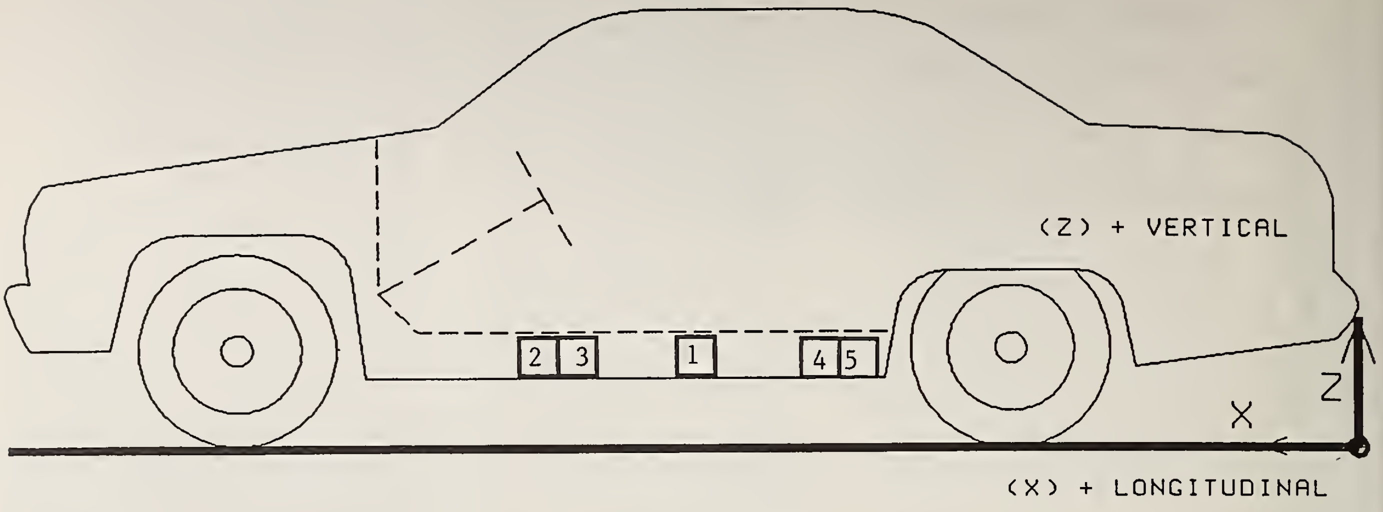
All X-axis measurements taken from a reference plane 4718 millimeters from and parallel to the rear bumper.

All Y-axis measurements taken from a reference plane 1425 millimeters from and parallel to the vehicle's longitudinal centerline

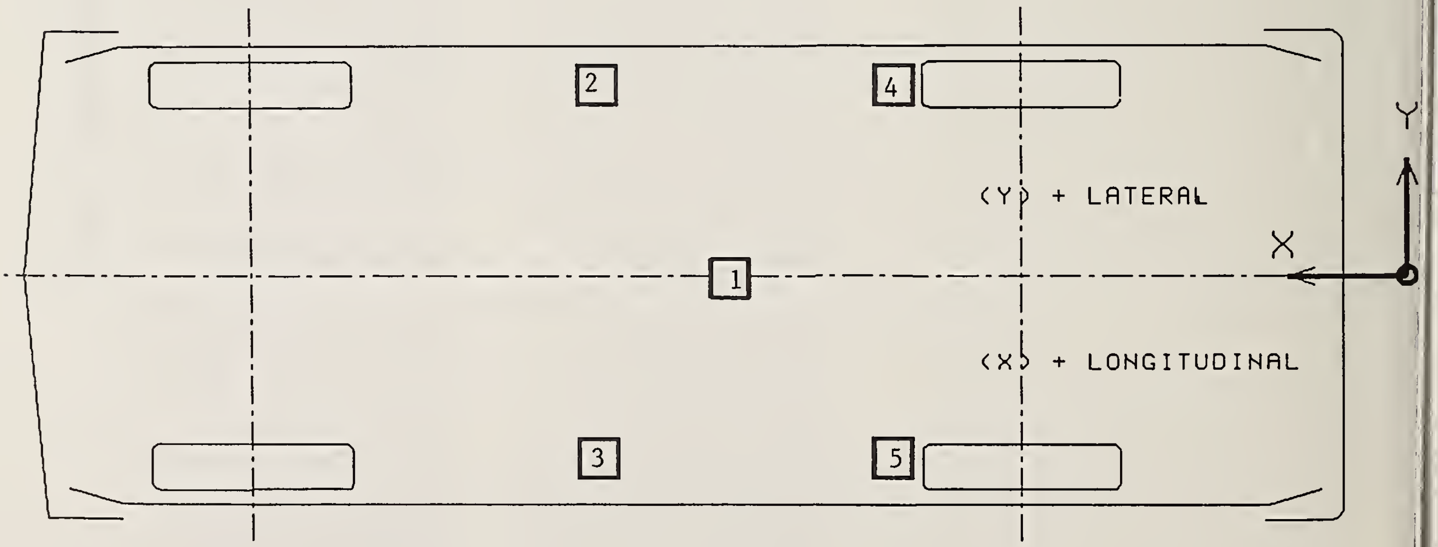
Data Acquisition Explanations

The vehicle's left front sill Y-axis acceleration data channel, LFSYG, exceeded its data channel full scale output between 29 and 31 milliseconds during the fifth impact. This anomaly affected the computations of the vehicle's left front sill Y-axis velocity and displacement during the fifth impact (Test No. 941025-5).

Figure 1 Vehicle Accelerometer Placement

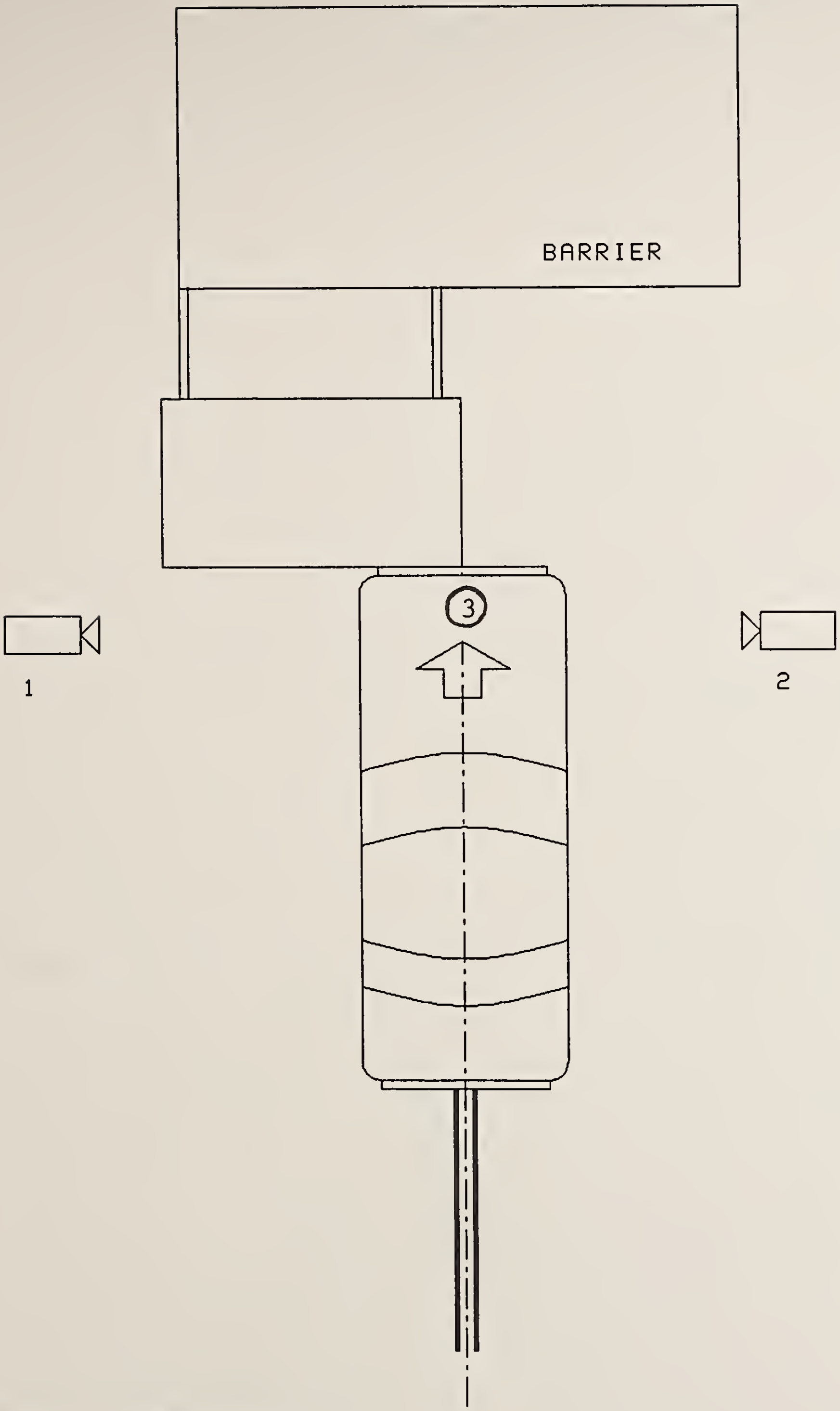


SIDE VIEW



BOTTOM VIEW

Figure 2 Camera Positions



Section 3.0

Test 941025-1 Summary

Table 3 Test Conditions

Test No. 941025-1

Date of Test: 10/25/94

Time of Test: 09:38

Ambient Temperature at Impact Area: 20° C

Intended Impact Velocity: 8.0 kph

Actual Impact Velocity: Primary = 7.7 kph
Secondary = 7.7 kph

Subject Vehicle Data

Length of Direct Contact Damage:	485 mm
Maximum Cumulative Crush at Vehicle Bumper Height:	25 mm

Vehicle Attitudes:

Post-Test: LF: 771; RF: 770; LR: 778; RR: 773

All distance measurements are in millimeters.

Table 4 Vehicle Crush At Vehicle Bumper Height

Test No. 941025-1

FL = 720
C1 = 8
C2 = 19
C3 = 21
C4 = 19
C5 = 13
C6 = 9

NOTE: FL is the post-test length of the damaged surface.

Measurements C1 - C6 were spaced equally apart over the post-impact length of the damaged surface. This distance is defined as length "FL" on the vehicle crush profile plot.

All measurements are in millimeters.

FIGURE 3 VEHICLE PROFILE AT BUMPER HEIGHT - TEST 1

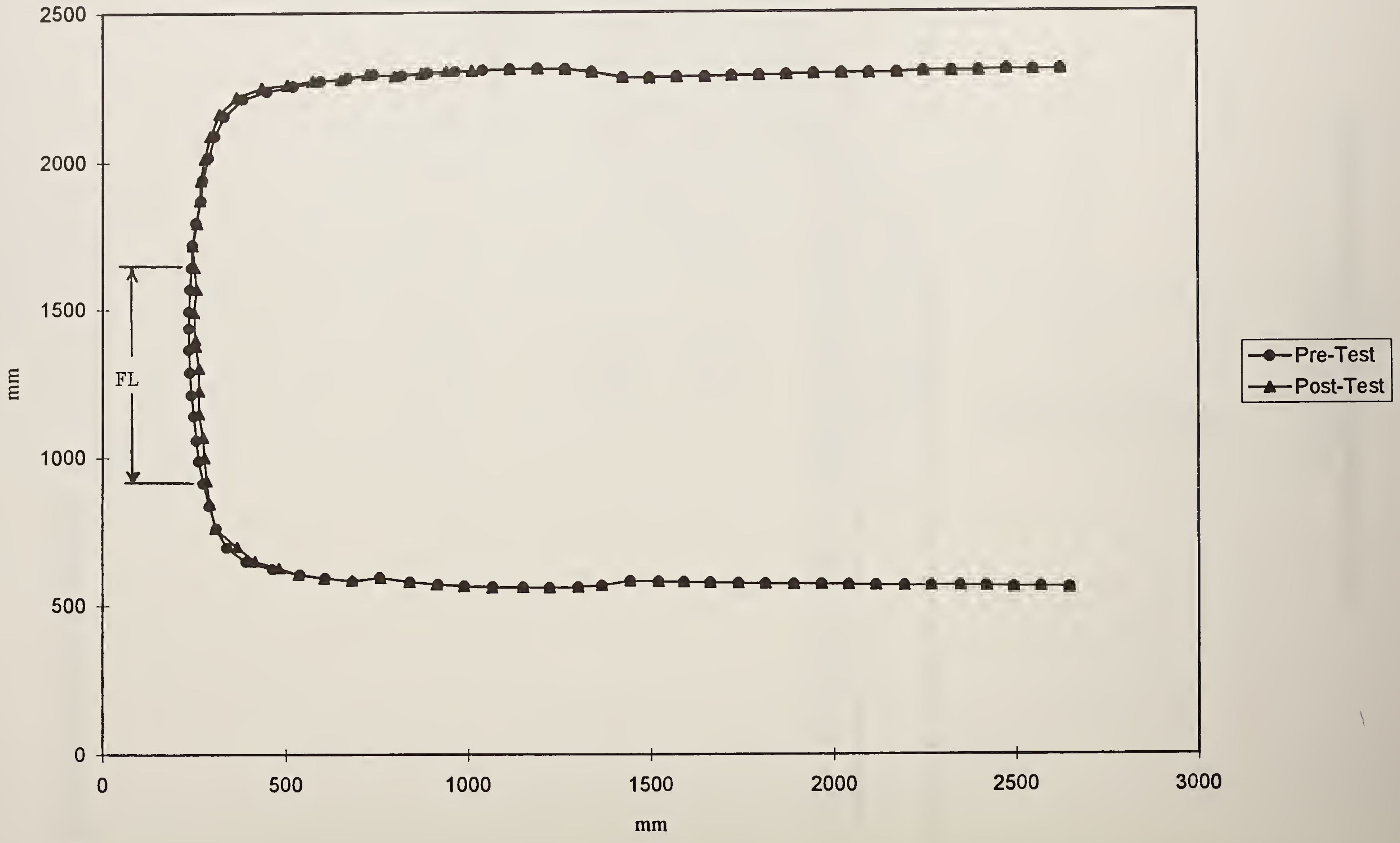


Table 5 Impacted Vehicle Measurements

Test No.: 941025-1 Vehicle Make/Model: Plymouth/Voyager

No.	Type of measurement	Pre-test	Post-test	Diff.
X1	Total length of vehicle at centerline	4509	4492	17
X2	Rear surface of vehicle to front of engine block	3873	3873	0
X3	Rear surface of vehicle to firewall	3595	3595	0
X4	Rear surface of vehicle to upper leading edge of right door	3272	3272	0
X5	Rear surface of vehicle to upper leading edge of left door	3263	3263	0
X6	Rear surface of vehicle to lower leading edge of right door	3197	3197	0
X7	Rear surface of vehicle to lower leading edge of left door	3191	3191	0
X8	Rear surface of vehicle to upper trailing edge of right door	2190	2190	0
X9	Rear surface of vehicle to upper trailing edge of left door	2182	2182	0
X10	Rear surface of vehicle to lower trailing edge of right door	2183	2183	0
X11	Rear surface of vehicle to lower trailing edge of left door	2177	2177	0
X12	Rear surface of vehicle to bottom of "A" post on right side	3194	3194	0
X13	Rear surface of vehicle to bottom of "A" post on left side	3225	3225	0
X14	Rear surface of vehicle to firewall - right side	3543	3543	0
X15	Rear surface of vehicle to firewall - left side	3554	3554	0
X16	Rear surface of vehicle to steering wheel center	2759	2759	0
X17	Center of steering column to "A" post	308	308	0
X18	Center of steering column to headliner	468	468	0
X19	Rear surface of vehicle to right side of front bumper	4411	4411	0
X20	Rear surface of vehicle to left side of front bumper	4393	4393	0
X21	Length of engine block	490	490	0

All measurements are in millimeters.

Table 6 Vehicle Accelerometer Locations And Data Summary

TEST NUMBER: 941025-1

No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 VEHICLE CENTER OF GRAVITY	2502 mm	0 mm	466 mm		
LONGITUDINAL				0.4 g @ 213.0 ms	4.2 g @ 57.5 ms
LATERAL				1.0 g @ 37.4 ms	1.1 g @ 85.4 ms
VERTICAL				2.1 g @ 46.7 ms	1.9 g @ 32.7 ms
RESULTANT				4.5 g @ 33.0 ms	
2 LEFT REAR SILL	2012 mm	675 mm	480 mm		
LONGITUDINAL				0.5 g @ 262.6 ms	4.7 g @ 39.6 ms
LATERAL				0.8 g @ 242.6 ms	1.3 g @ 43.0 ms
3 RIGHT REAR SILL	1934 mm	-700 mm	487 mm		
LONGITUDINAL				0.8 g @ 271.2 ms	3.3 g @ 73.7 ms
LATERAL				1.0 g @ 144.7 ms	0.8 g @ 64.5 ms
4 LEFT FRONT SILL	2917 mm	633 mm	435 mm		
LONGITUDINAL				0.6 g @ 270.2 ms	4.8 g @ 39.4 ms
LATERAL				1.2 g @ 129.7 ms	1.2 g @ 82.4 ms
5 RIGHT FRONT SILL	2914 mm	-633 mm	435 mm		
LONGITUDINAL				0.6 g @ 293.5 ms	3.5 g @ 57.1 ms
LATERAL				1.4 g @ 38.9 ms	1.1 g @ 86.6 ms

REFERENCE:
X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

Table 7 Camera Information
Test No. 941025-1

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of Camera Data
1	Left tight	Photosonic	13	1002	Impact overall
2	Right tight	Photosonic	13	1000	Impact overall
3	Overhead	Photosonic	13	998	Impact overall

Section 4.0

Test 941025-2 Summary

Table 8 Test Conditions

Test No. 941025-2

Date of Test: 10/25/94

Time of Test: 11:11

Ambient Temperature At Impact Area: 20° C

Intended Impact Velocity: 16.0 kph

Actual Impact Velocity: Primary = 15.8 kph
Secondary = 15.8 kph

Subject Vehicle Data

Length of Direct Contact Damage: 685 mm

Maximum Cumulative Crush at Vehicle Bumper Height: 207 mm

Vehicle Attitudes:

Post-Test: LF: 764; RF: 766; LR: 774; RR: 776

All distance measurements are in millimeters.

Table 9 Vehicle Crush At Vehicle Bumper Height

Test No. 941025-2

FL = 1289
C1 = 81
C2 = 140
C3 = 182
C4 = 142
C5 = 76
C6 = 19

NOTE: FL is the post-test length of the damaged surface.

Measurements C1 - C6 were spaced equally apart over the post-impact length of the damaged surface. This distance is defined as length "FL" on the vehicle crush profile plot.

All measurements are in millimeters.

FIGURE 4 VEHICLE PROFILE AT BUMPER HEIGHT - TEST 2

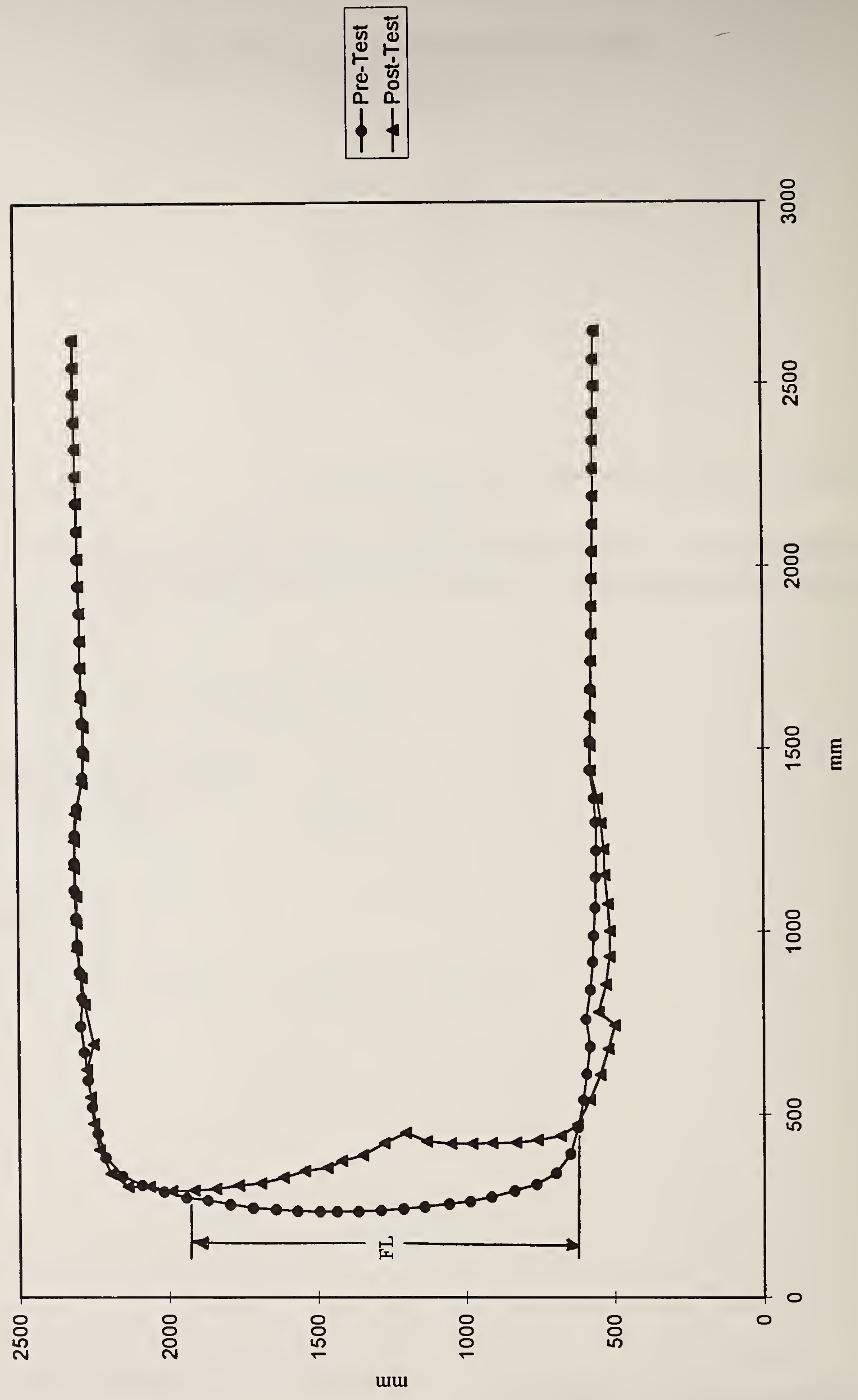


Table 10 Impacted Vehicle Measurements

Test No.: 941025-2 Vehicle Make/Model: Plymouth/Voyager

No.	Type of measurement	Pre-test	Post-test	Diff.
X1	Total length of vehicle at centerline	4492	4379	113
X2	Rear surface of vehicle to front of engine block	3873	NA[1]	NA[1]
X3	Rear surface of vehicle to firewall	3595	NA[1]	NA[1]
X4	Rear surface of vehicle to upper leading edge of right door	3272	3268	4
X5	Rear surface of vehicle to upper leading edge of left door	3263	3265	-2
X6	Rear surface of vehicle to lower leading edge of right door	3197	3200	-3
X7	Rear surface of vehicle to lower leading edge of left door	3191	3185	6
X8	Rear surface of vehicle to upper trailing edge of right door	2190	2205	-15
X9	Rear surface of vehicle to upper trailing edge of left door	2182	2180	2
X10	Rear surface of vehicle to lower trailing edge of right door	2183	2185	-2
X11	Rear surface of vehicle to lower trailing edge of left door	2177	2180	-3
X12	Rear surface of vehicle to bottom of "A" post on right side	3194	3240	46
X13	Rear surface of vehicle to bottom of "A" post on left side	3225	NA[1]	NA[1]
X14	Rear surface of vehicle to firewall - right side	3543	NA[1]	NA[1]
X15	Rear surface of vehicle to firewall - left side	3554	NA[1]	NA[1]
X16	Rear surface of vehicle to steering wheel center	2759	2821	-62
X17	Center of steering column to "A" post	308	286	22
X18	Center of steering column to headliner	468	491	-23
X19	Rear surface of vehicle to right side of front bumper	4411	4427	-16
X20	Rear surface of vehicle to left side of front bumper	4393	4320	73
X21	Length of engine block	490	NA[1]	NA[1]

[1] The vehicle's crush obstructed the measurement.

All measurements are in millimeters.

Table 11 Vehicle Accelerometer Locations And Data Summary

TEST NUMBER: 941025-2

No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 VEHICLE CENTER OF GRAVITY	2502 mm	0 mm	466 mm		
LONGITUDINAL				1.8 g @ 21.2 ms	8.8 g @ 28.8 ms
LATERAL				1.5 g @ 22.1 ms	1.5 g @ 26.2 ms
VERTICAL				9.4 g @ 21.6 ms	5.8 g @ 28.4 ms
RESULTANT				10.5 g @ 28.6 ms	
2 LEFT REAR SILL	2012 mm	675 mm	480 mm		
LONGITUDINAL				1.0 g @ 20.4 ms	8.7 g @ 28.5 ms
LATERAL				2.7 g @ 22.0 ms	3.0 g @ 25.1 ms
3 RIGHT REAR SILL	1934 mm	-700 mm	487 mm		
LONGITUDINAL				2.5 g @ 21.0 ms	8.2 g @ 75.0 ms
LATERAL				1.3 g @ 134.8 ms	1.8 g @ 27.4 ms
4 LEFT FRONT SILL	2917 mm	633 mm	435 mm		
LONGITUDINAL				1.1 g @ 19.5 ms	9.1 g @ 28.0 ms
LATERAL				1.9 g @ 21.3 ms	2.8 g @ 77.0 ms
5 RIGHT FRONT SILL	2914 mm	-633 mm	435 mm		
LONGITUDINAL				3.4 g @ 21.2 ms	8.7 g @ 28.7 ms
LATERAL				2.2 g @ 14.5 ms	1.3 g @ 85.8 ms

REFERENCE: X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

Table 12 Camera Information

Test No. 941025-2

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of Camera Data
1	Left tight	Photosonic	13	1002	Impact overall
2	Right tight	Photosonic	13	1002	Impact overall
3	Overhead	Photosonic	13	998	Impact overall

Section 5.0

Test 941025-3 Summary

Table 13 Test Conditions

Test No. 941025-3

Date of Test: 10/25/94

Time of Test: 12:27

Ambient Temperature at Impact Area: 20° C

Intended Impact Velocity: 16.0 kph

Actual Impact Velocity: Primary = 15.8 kph
Secondary = 15.8 kph

Subject Vehicle Data

Length of Direct Contact Damage: 732 mm

Maximum Cumulative Crush at
Vehicle Bumper Height: 282 mm

Vehicle Attitudes:

Post-Test: LF: 768; RF: 764; LR: 772; RR: 775

All distance measurements are in millimeters.

Table 14 Vehicle Crush At Vehicle Bumper Height

Test No. 941025-3

FL = 1490
C1 = 107
C2 = 184
C3 = 270
C4 = 241
C5 = 111
C6 = 7

NOTE: FL is post-test length of damaged surface.

Measurements C1 - C6 were spaced equally apart over the post-impact length of the damaged surface. This distance is defined as length "FL" on the vehicle crush profile plot.

All measurements are in millimeters.

FIGURE 5 VEHICLE PROFILE AT BUMPER HEIGHT - TEST 3

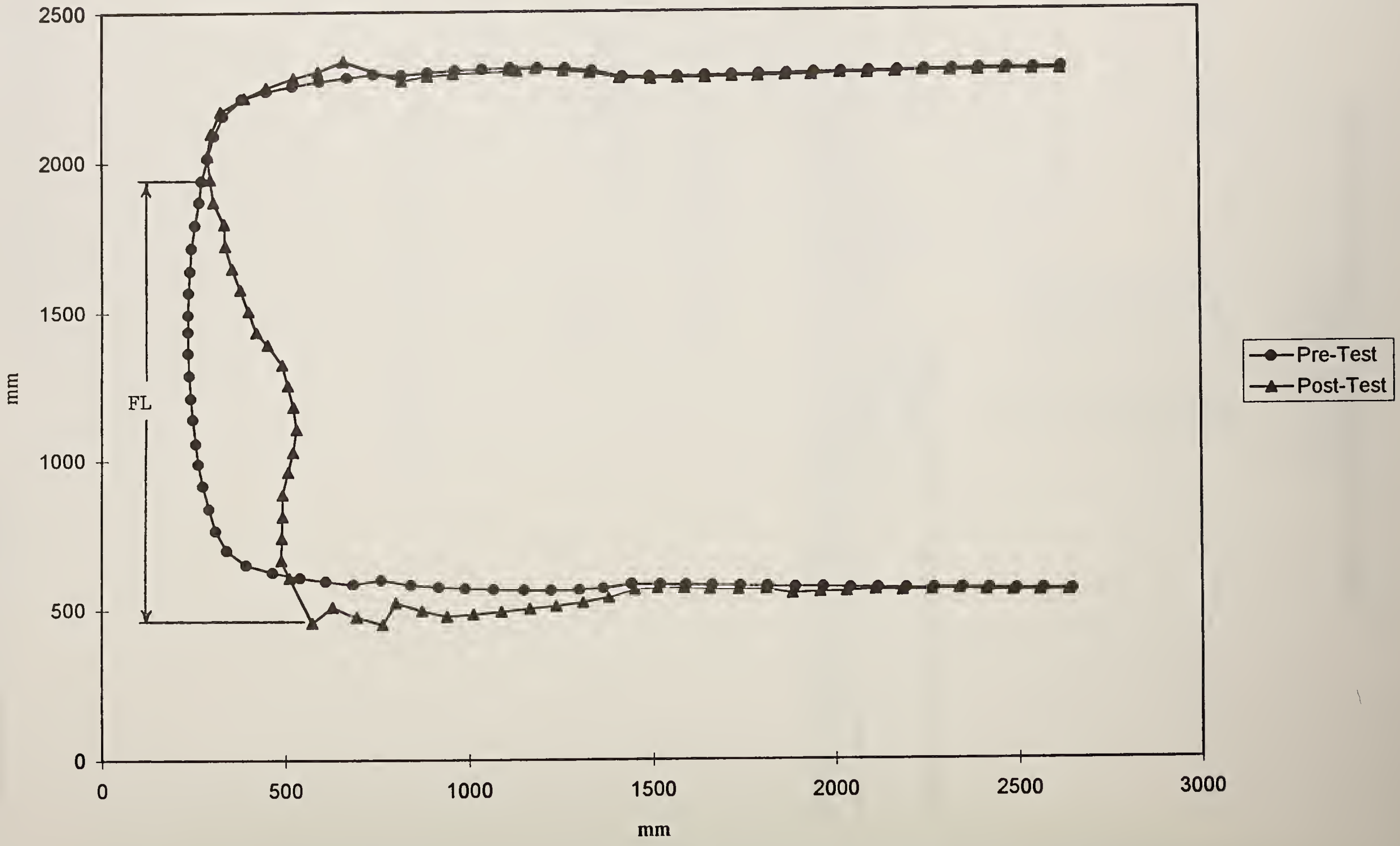


Table 15 Impacted Vehicle Measurements

Test No.: 941025-3 Vehicle Make/Model: Plymouth/Voyager

No.	Type of measurement	Pre-test	Post-test	Diff.
X1	Total length of vehicle at centerline	4379	4306	73
X2	Rear surface of vehicle to front of engine block	NA[1]	NA[1]	NA[1]
X3	Rear surface of vehicle to firewall	NA[1]	NA[1]	NA[1]
X4	Rear surface of vehicle to upper leading edge of right door	3268	3270	-2
X5	Rear surface of vehicle to upper leading edge of left door	3265	3265	0
X6	Rear surface of vehicle to lower leading edge of right door	3200	3195	5
X7	Rear surface of vehicle to lower leading edge of left door	3185	3187	-2
X8	Rear surface of vehicle to upper trailing edge of right door	2205	2190	15
X9	Rear surface of vehicle to upper trailing edge of left door	2180	2185	-5
X10	Rear surface of vehicle to lower trailing edge of right door	2185	2185	0
X11	Rear surface of vehicle to lower trailing edge of left door	2180	2180	0
X12	Rear surface of vehicle to bottom of "A" post on right side	3240	3209	31
X13	Rear surface of vehicle to bottom of "A" post on left side	NA[1]	NA[1]	NA[1]
X14	Rear surface of vehicle to firewall - right side	NA[1]	NA[1]	NA[1]
X15	Rear surface of vehicle to firewall - left side	NA[1]	NA[1]	NA[1]
X16	Rear surface of vehicle to steering wheel center	2821	2815	6
X17	Center of steering column to "A" post	286	284	2
X18	Center of steering column to headliner	491	450	41
X19	Rear surface of vehicle to right side of front bumper	4427	4431	-4
X20	Rear surface of vehicle to left side of front bumper	4466	4419	47
X21	Length of engine block	NA[1]	NA[1]	NA[1]

[1] The vehicle's crush obstructed the measurement.

All measurements are in millimeters.

Table 16 Vehicle Accelerometer Locations And Data Summary

TEST NUMBER: 941025-3

No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 VEHICLE CENTER OF GRAVITY	2502 mm	0 mm	466 mm		
LONGITUDINAL				1.2 g @ 287.4 ms	12.0 g @ 39.4 ms
LATERAL				1.0 g @ 191.1 ms	1.2 g @ 77.5 ms
VERTICAL				5.1 g @ 33.9 ms	4.7 g @ 91.0 ms
RESULTANT				12.3 g @ 39.1 ms	
2 LEFT REAR SILL	2012 mm	675 mm	480 mm		
LONGITUDINAL				1.1 g @ 287.2 ms	11.9 g @ 39.0 ms
LATERAL				1.3 g @ 125.0 ms	4.4 g @ 40.7 ms
3 RIGHT REAR SILL	1934 mm	-700 mm	487 mm		
LONGITUDINAL				1.4 g @ 190.7 ms	12.0 g @ 39.3 ms
LATERAL				1.2 g @ 170.1 ms	2.3 g @ 41.7 ms
4 LEFT FRONT SILL	2917 mm	633 mm	435 mm		
LONGITUDINAL				1.1 g @ 191.8 ms	11.5 g @ 37.7 ms
LATERAL				1.1 g @ 48.6 ms	2.2 g @ 39.7 ms
5 RIGHT FRONT SILL	2914 mm	-633 mm	435 mm		
LONGITUDINAL				1.0 g @ 131.8 ms	11.7 g @ 39.2 ms
LATERAL				1.4 g @ 56.9 ms	1.6 g @ 84.8 ms

REFERENCE:
X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

Table 17 Camera Information

Test No. 941025-3

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of Camera Data
1	Left tight	Photosonic	13	1005	Impact overall
2	Right tight	Photosonic	13	1002	Impact overall
3	Overhead	Photosonic	13	998	Impact overall

Section 6.0

Test 941025-4 Summary

Table 18 Test Conditions

Test No. 941025-4

Date of Test: 10/25/94

Time of Test: 13:36

Ambient Temperature at Impact Area: 21° C

Intended Impact Velocity: 32.2 kph

Actual Impact Velocity:
Primary = 32.0 kph
Secondary = 32.2 kph

Subject Vehicle Data

Length of Direct Contact Damage: 888 mm

Maximum Cumulative Crush at Vehicle Bumper Height: 519 mm

Vehicle Attitudes:

Post-Test: LF: 778; RF: 770; LR: 772; RR: 770

All distance measurements are in millimeters.

Table 19 Vehicle Crush At Vehicle Bumper Height

Test No. 941025-4

FL = 1882
C1 = 215
C2 = 382
C3 = 518
C4 = 220
C5 = -96
C6 = -312

NOTE: FL is post-test length of damaged surface.

Measurements C1 - C6 were spaced equally apart over the post-impact length of the damaged surface. This distance is defined as length "FL" on the vehicle crush profile plot.

All measurements are in millimeters.

FIGURE 6 VEHICLE PROFILE AT BUMPER HEIGHT - TEST 4

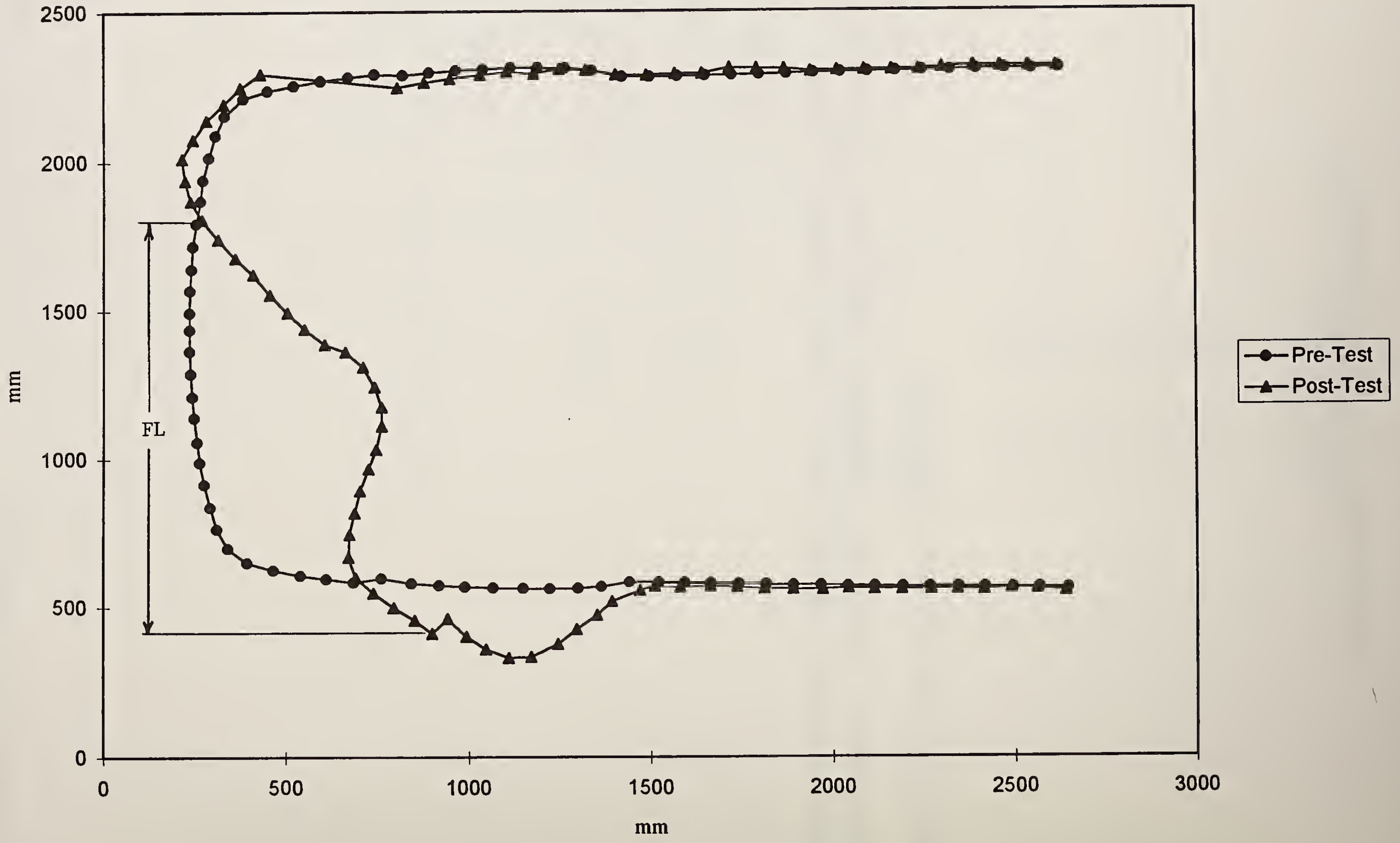


Table 20 Impacted Vehicle Measurements

Test No.: 941025-4 Vehicle Make/Model: Plymouth/Voyager

No.	Type of measurement	Pre-test	Post-test	Diff.
X1	Total length of vehicle at centerline	4306	4110	196
X2	Rear surface of vehicle to front of engine block	NA[1]	NA[1]	NA[1]
X3	Rear surface of vehicle to firewall	NA[1]	NA[1]	NA[1]
X4	Rear surface of vehicle to upper leading edge of right door	3270	3261	9
X5	Rear surface of vehicle to upper leading edge of left door	3265	3259	6
X6	Rear surface of vehicle to lower leading edge of right door	3195	3198	-3
X7	Rear surface of vehicle to lower leading edge of left door	3187	3183	4
X8	Rear surface of vehicle to upper trailing edge of right door	2190	2185	5
X9	Rear surface of vehicle to upper trailing edge of left door	2185	2174	11
X10	Rear surface of vehicle to lower trailing edge of right door	2185	2177	8
X11	Rear surface of vehicle to lower trailing edge of left door	2180	2177	3
X12	Rear surface of vehicle to bottom of "A" post on right side	3209	3176	33
X13	Rear surface of vehicle to bottom of "A" post on left side	NA[1]	NA[1]	NA[1]
X14	Rear surface of vehicle to firewall - right side	NA[1]	NA[1]	NA[1]
X15	Rear surface of vehicle to firewall - left side	NA[1]	NA[1]	NA[1]
X16	Rear surface of vehicle to steering wheel center	2815	2776	39
X17	Center of steering column to "A" post	284	358	-74
X18	Center of steering column to headliner	450	422	28
X19	Rear surface of vehicle to right side of front bumper	4431	4507	-76
X20	Rear surface of vehicle to left side of front bumper	4419	4237	182
X21	Length of engine block	NA[1]	NA[1]	NA[1]

[1] The vehicle's crush obstructed the measurement.

All measurements are in millimeters.

Table 21 Vehicle Accelerometer Locations And Data Summary

TEST NUMBER: 941025-4

No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 VEHICLE CENTER OF GRAVITY	2502 mm	0 mm	466 mm		
LONGITUDINAL				1.1 g @ 127.2 ms	18.0 g @ 38.8 ms
LATERAL				6.9 g @ 32.7 ms	7.8 g @ 39.7 ms
VERTICAL				5.7 g @ 51.6 ms	8.3 g @ 11.1 ms
RESULTANT				19.7 g @ 39.4 ms	
2 LEFT REAR SILL	2012 mm	675 mm	480 mm		
LONGITUDINAL				1.3 g @ 128.1 ms	16.2 g @ 61.5 ms
LATERAL				4.3 g @ 32.8 ms	9.7 g @ 39.3 ms
3 RIGHT REAR SILL	1934 mm	-700 mm	487 mm		
LONGITUDINAL				2.0 g @ 126.4 ms	18.9 g @ 38.5 ms
LATERAL				3.9 g @ 32.8 ms	7.0 g @ 39.0 ms
4 LEFT FRONT SILL	2917 mm	633 mm	435 mm		
LONGITUDINAL				0.7 g @ 143.0 ms	18.5 g @ 58.6 ms
LATERAL				10.6 g @ 32.6 ms	11.3 g @ 39.5 ms
5 RIGHT FRONT SILL	2914 mm	-633 mm	435 mm		
LONGITUDINAL				1.4 g @ 127.6 ms	20.0 g @ 38.0 ms
LATERAL				7.1 g @ 30.2 ms	6.5 g @ 37.9 ms

REFERENCE:
X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

Table 22 Camera Information
Test No. 941025-4

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of Camera Data
1	Left tight	Photosonic	13	1005	Impact overall
2	Right tight	Photosonic	13	1002	Impact overall
3	Overhead	Photosonic	13	998	Impact overall

Section 7.0

Test 941025-5 Summary

Table 23 Test Conditions

Test No. 941025-5

Date of Test: 10/25/94

Time of Test: 14:54

Ambient Temperature at Impact Area: 19° C

Intended Impact Velocity: 56.3 kph

Actual Impact Velocity:	Primary	= 56.3 kph
	Secondary	= 56.5 kph

Subject Vehicle Data

Length of Direct Contact Damage: 970 mm

Maximum Cumulative Crush at Vehicle Bumper Height: 1016 mm

Vehicle Attitudes:

Post-Test: LF: 778, RF: 824; LR: 746; RR: 791

All distance measurements are in millimeters.

Table 24 Vehicle Crush At Vehicle Bumper Height

Test No. 941025-5

FL = 1655
C1 = 635
C2 = 701
C3 = 891
C4 = 1016
C5 = 58
C6 = -316

NOTE: FL is post-test length of damaged surface.

Measurements C1 - C6 were spaced equally apart over the post-impact length of the damaged surface. This distance is defined as length "FL" on the vehicle crush profile plot.

All measurements are in millimeters.

FIGURE 7 VEHICLE PROFILE AT BUMPER HEIGHT - TEST 5

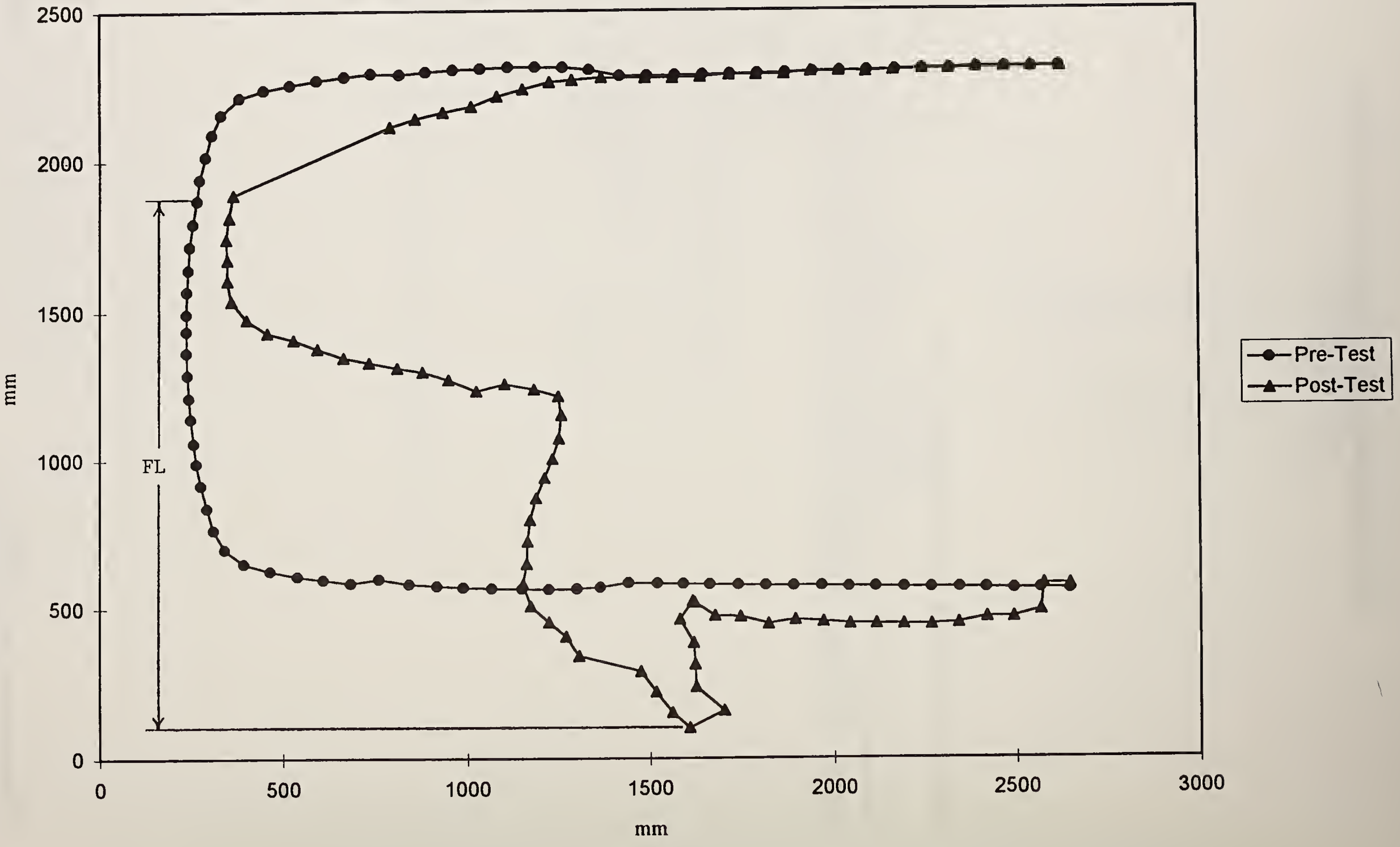


Table 25 Impacted Vehicle Measurements

Test No.: 941025-5 Vehicle Make/Model: Plymouth/Voyager

No.	Type of measurement	Pre-test	Post-test	Diff.
X1	Total length of vehicle at centerline	4110	3755	355
X2	Rear surface of vehicle to front of engine block	NA[1]	NA[1]	NA[1]
X3	Rear surface of vehicle to firewall	NA[1]	NA[1]	NA[1]
X4	Rear surface of vehicle to upper leading edge of right door	3261	3286	-25
X5	Rear surface of vehicle to upper leading edge of left door	3259	3087	172
X6	Rear surface of vehicle to lower leading edge of right door	3198	3213	-15
X7	Rear surface of vehicle to lower leading edge of left door	3183	3141	42
X8	Rear surface of vehicle to upper trailing edge of right door	2185	2204	-19
X9	Rear surface of vehicle to upper trailing edge of left door	2174	2131	43
X10	Rear surface of vehicle to lower trailing edge of right door	2177	2200	-23
X11	Rear surface of vehicle to lower trailing edge of left door	2177	2137	40
X12	Rear surface of vehicle to bottom of "A" post on right side	3176	NA[1]	NA[1]
X13	Rear surface of vehicle to bottom of "A" post on left side	NA[1]	NA[1]	NA[1]
X14	Rear surface of vehicle to firewall - right side	NA[1]	NA[1]	NA[1]
X15	Rear surface of vehicle to firewall - left side	NA[1]	NA[1]	NA[1]
X16	Rear surface of vehicle to steering wheel center	2776	2448	328
X17	Center of steering column to "A" post	358	379	-21
X18	Center of steering column to headliner	422	534	-112
X19	Rear surface of vehicle to right side of front bumper	4507	4329	178
X20	Rear surface of vehicle to left side of front bumper	4237	3745	492
X21	Length of engine block	NA[1]	490	NA[1]

[1] The vehicle's crush obstructed the measurement.

All measurements are in millimeters.

Table 26 Vehicle Accelerometer Locations And Data Summary

TEST NUMBER: 941025-5

No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 VEHICLE CENTER OF GRAVITY	2502 mm	0 mm	466 mm		
LONGITUDINAL				2.6 g @ 152.1 ms	32.7 g @ 36.3 ms
LATERAL				8.9 g @ 43.6 ms	11.2 g @ 21.8 ms
VERTICAL				21.5 g @ 39.4 ms	44.3 g @ 36.5 ms
RESULTANT				55.0 g @ 36.5 ms	
2 LEFT REAR SILL	2012 mm	675 mm	480 mm		
LONGITUDINAL				2.8 g @ 157.3 ms	31.3 g @ 45.0 ms
LATERAL				12.8 g @ 37.0 ms	18.7 g @ 21.5 ms
3 RIGHT REAR SILL	1934 mm	-700 mm	487 mm		
LONGITUDINAL				2.5 g @ 153.3 ms	29.0 g @ 35.2 ms
LATERAL				3.2 g @ 73.9 ms	10.9 g @ 23.2 ms
4 LEFT FRONT SILL	2917 mm	633 mm	435 mm		
LONGITUDINAL				3.2 g @ 154.1 ms	52.0 g @ 55.0 ms
LATERAL[1]				26.2 g @ 53.7 ms	45.7 g @ 37.7 ms
5 RIGHT FRONT SILL	2914 mm	-633 mm	435 mm		
LONGITUDINAL				2.2 g @ 194.8 ms	28.8 g @ 34.3 ms
LATERAL				8.8 g @ 41.4 ms	10.3 g @ 21.8 ms

REFERENCE: X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

---

[1] See Data Acquisition Explanations

Table 27 Camera Information

Test No. 941025-5

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of Camera Data
1	Left tight	Photosonic	13	1000	Impact overall
2	Right tight	Photosonic	13	998	Impact overall
3	Overhead	Photosonic	13	998	Impact overall

Photographs

List of Photographs

Test No. 941025-1

A-1. Pre-Test Left Side View

A-2. Post-Test Left Side View

A-3. Pre-Test Left Front Three-Quarter View

A-4. Post-Test Left Front Three-Quarter View

A-5. Pre-Test Front View

A-6. Post-Test Front View

A-7. Pre-Test Right Front Three-Quarter View

A-8. Post-Test Right Front Three-Quarter View

A-9. Pre-Test Right Side View

A-10. Post-Test Right Side View

A-11. Pre-Test Overhead View

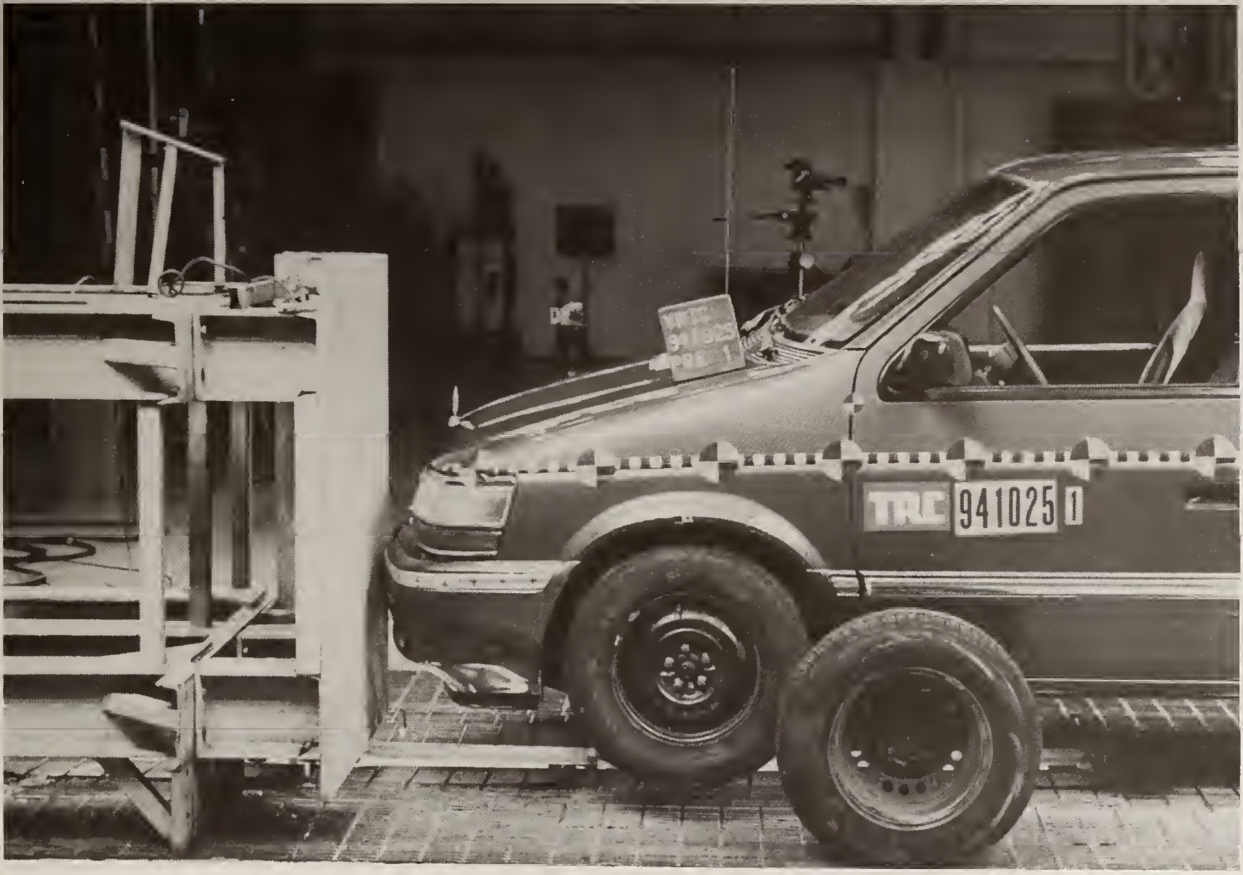


Figure A-1. Pre-Test Left Side View

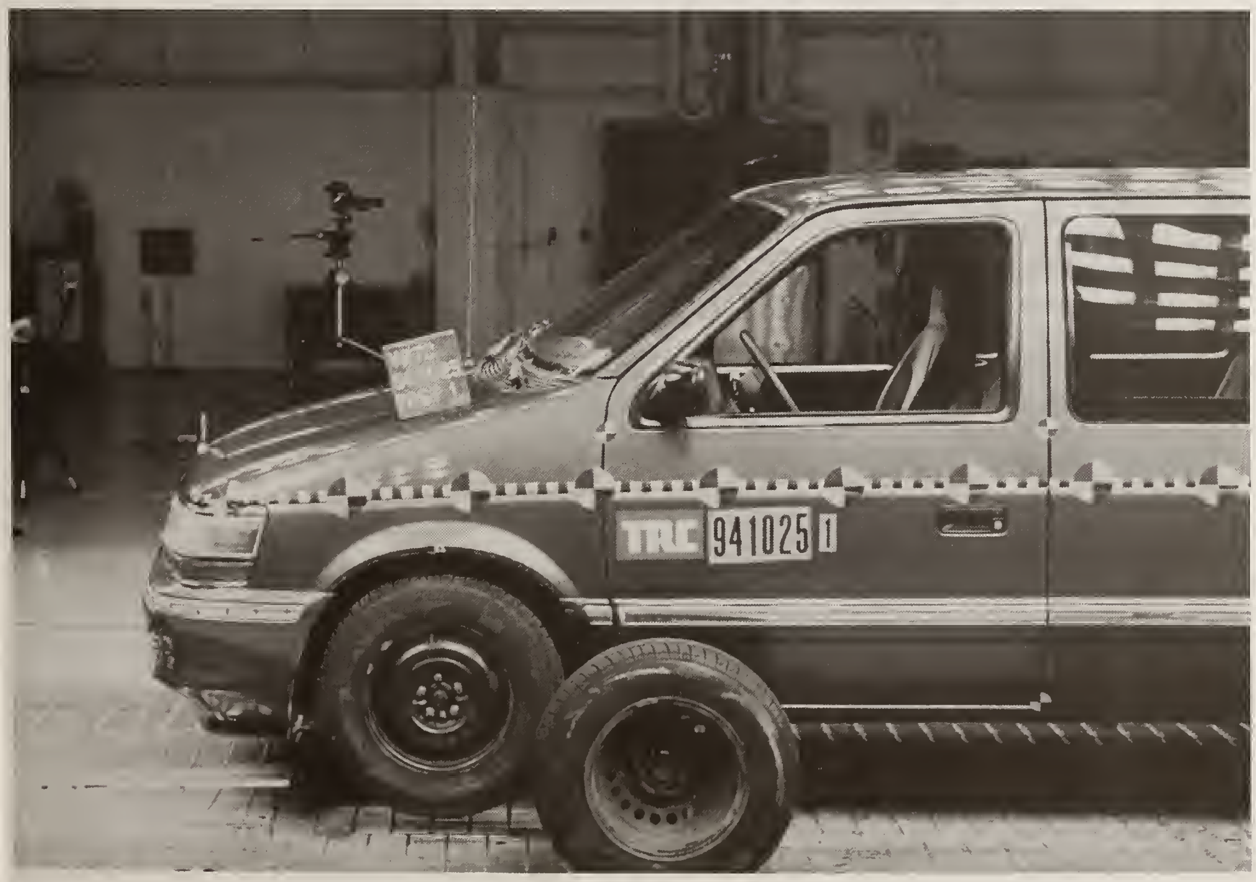


Figure A-2. Post-Test Left Side View

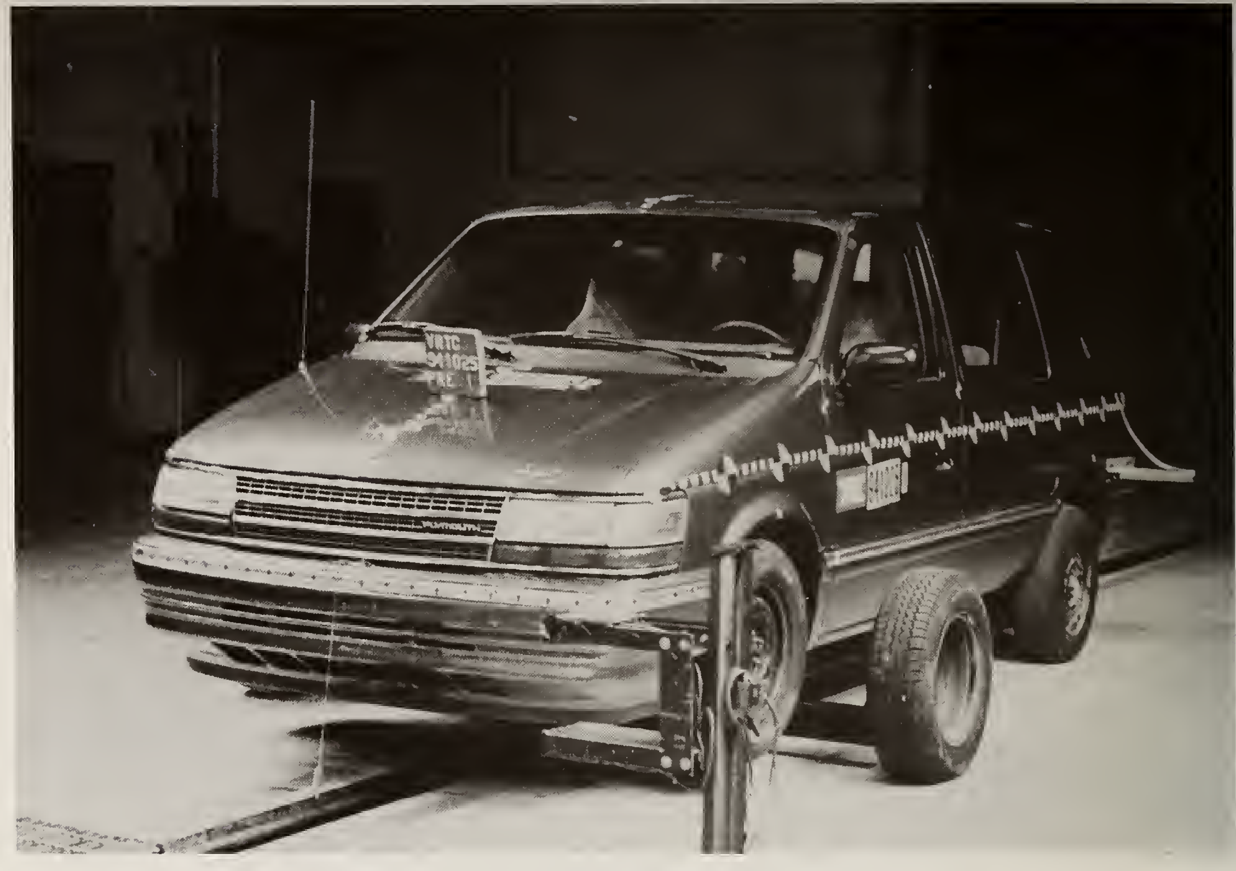


Figure A-3. Pre-Test Left Front Three-Quarter View

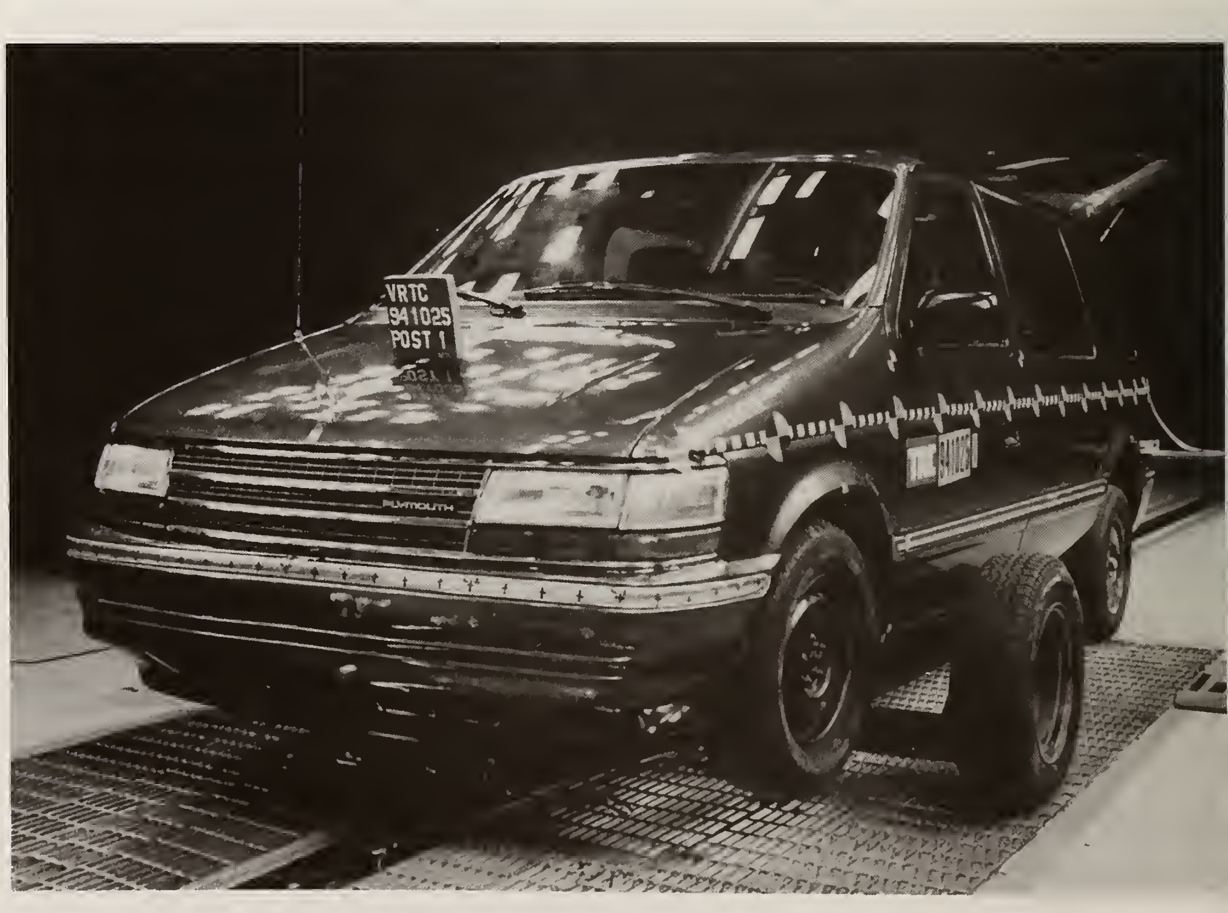


Figure A-4. Post-Test Left Front Three-Quarter View

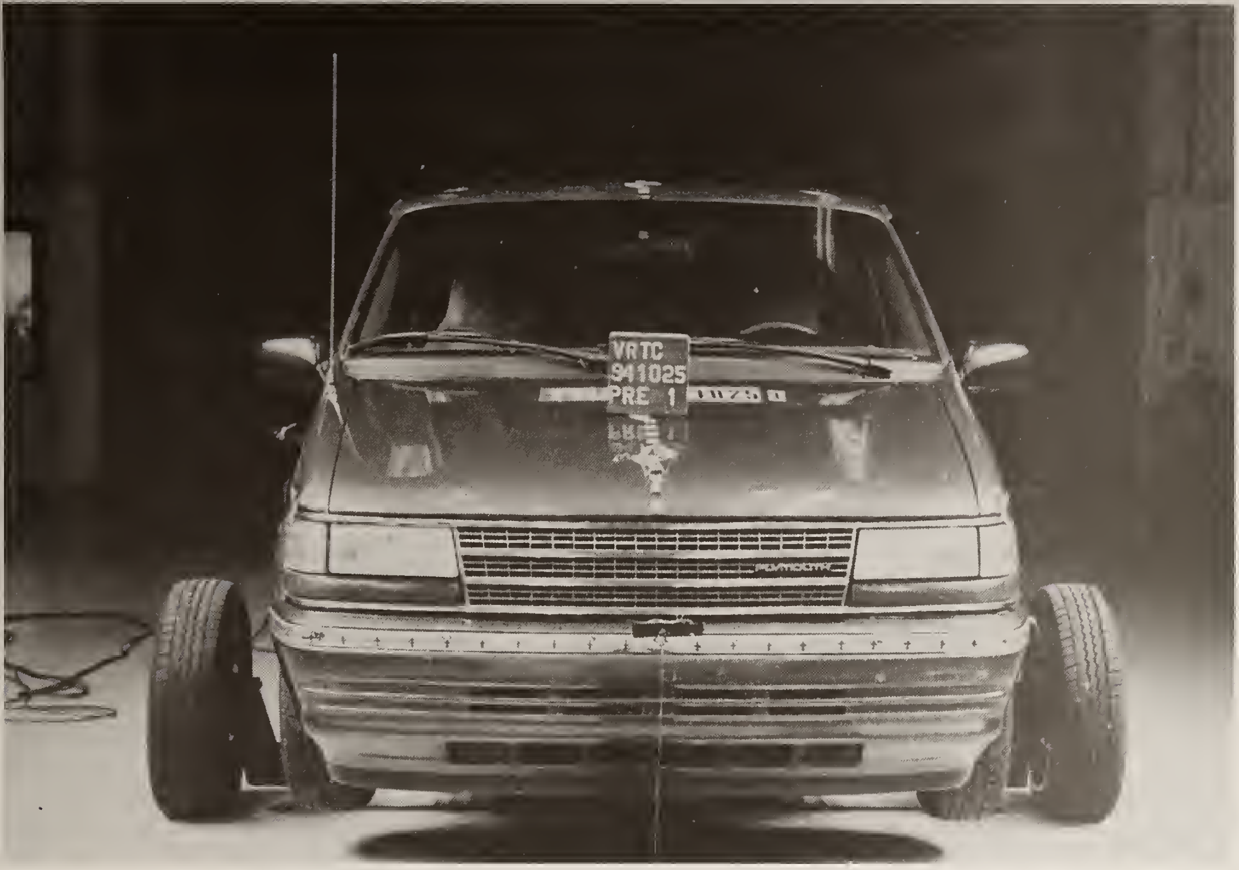


Figure A-5. Pre-Test Front View

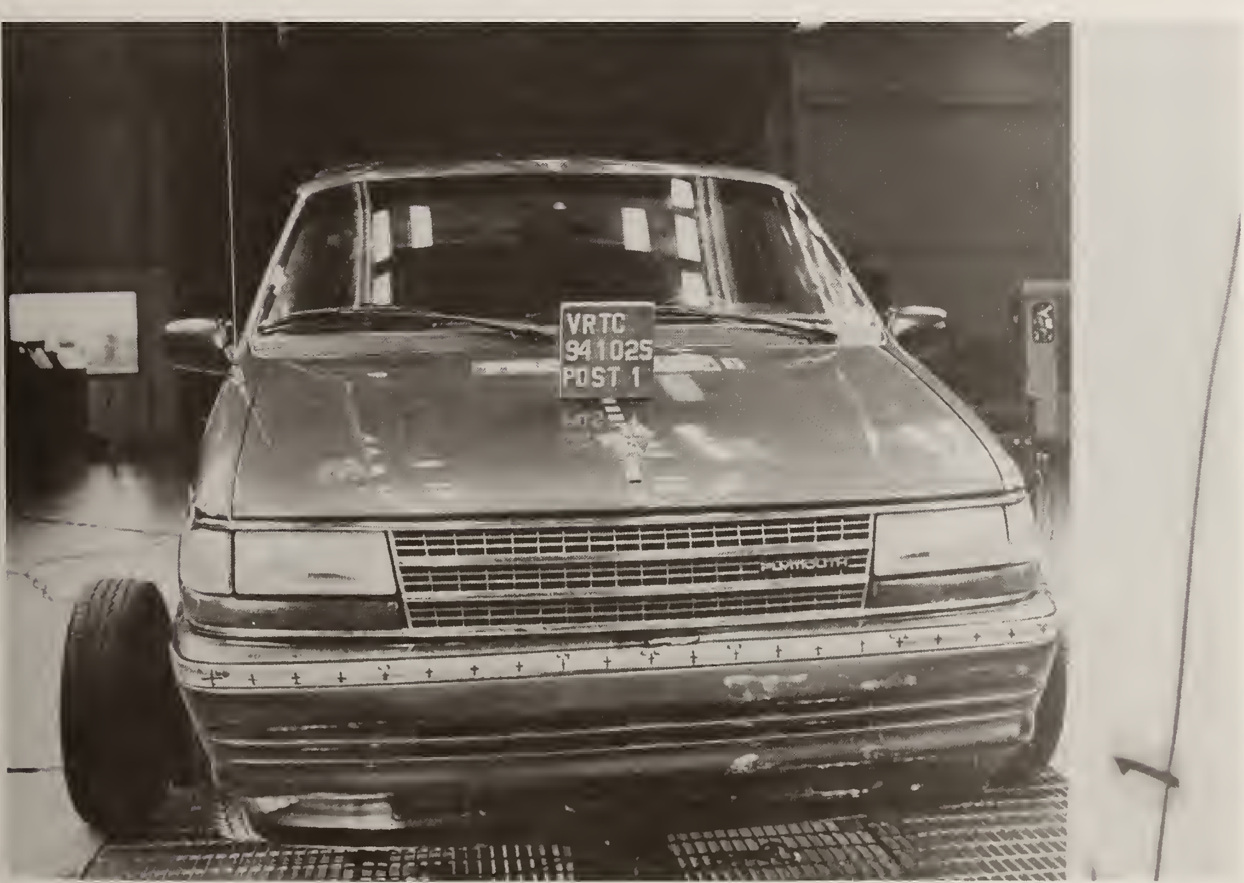


Figure A-6. Post-Test Front View

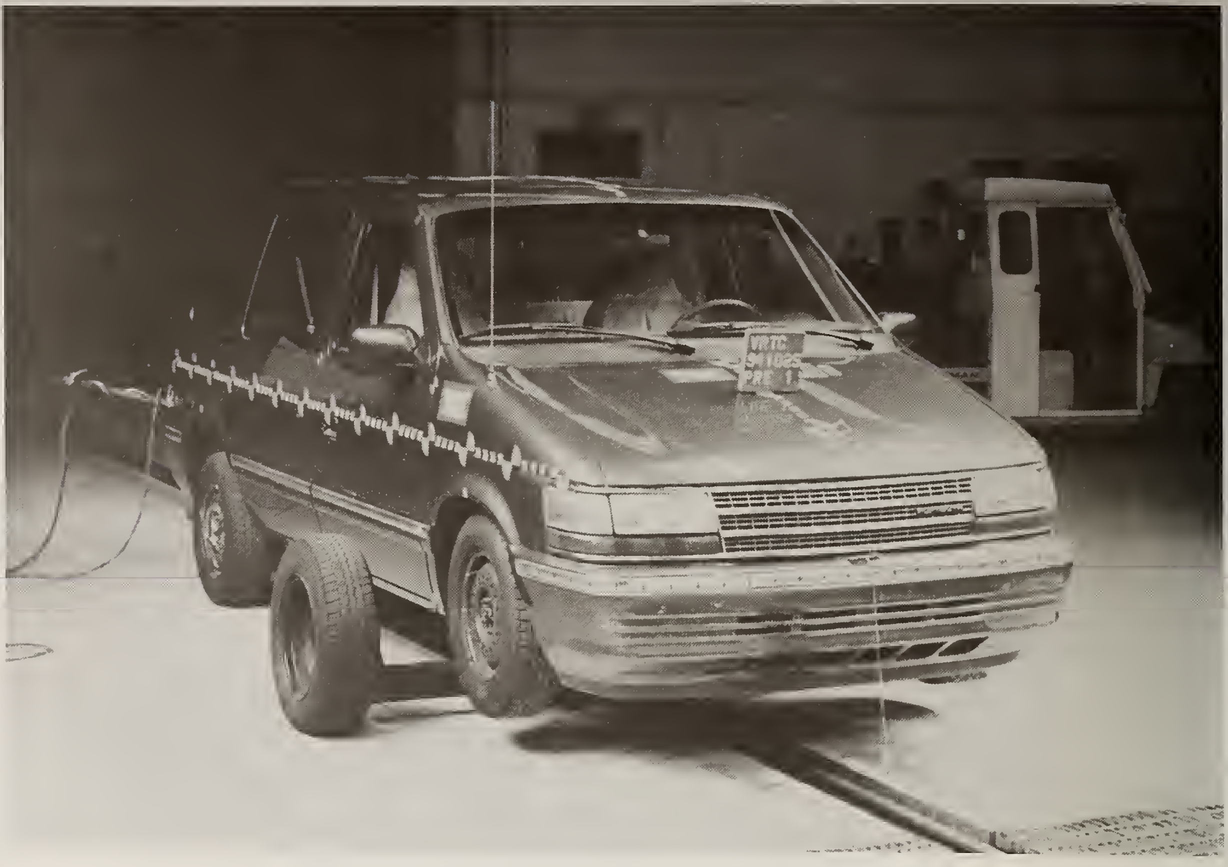


Figure A-7. Pre-Test Right Front Three-Quarter View

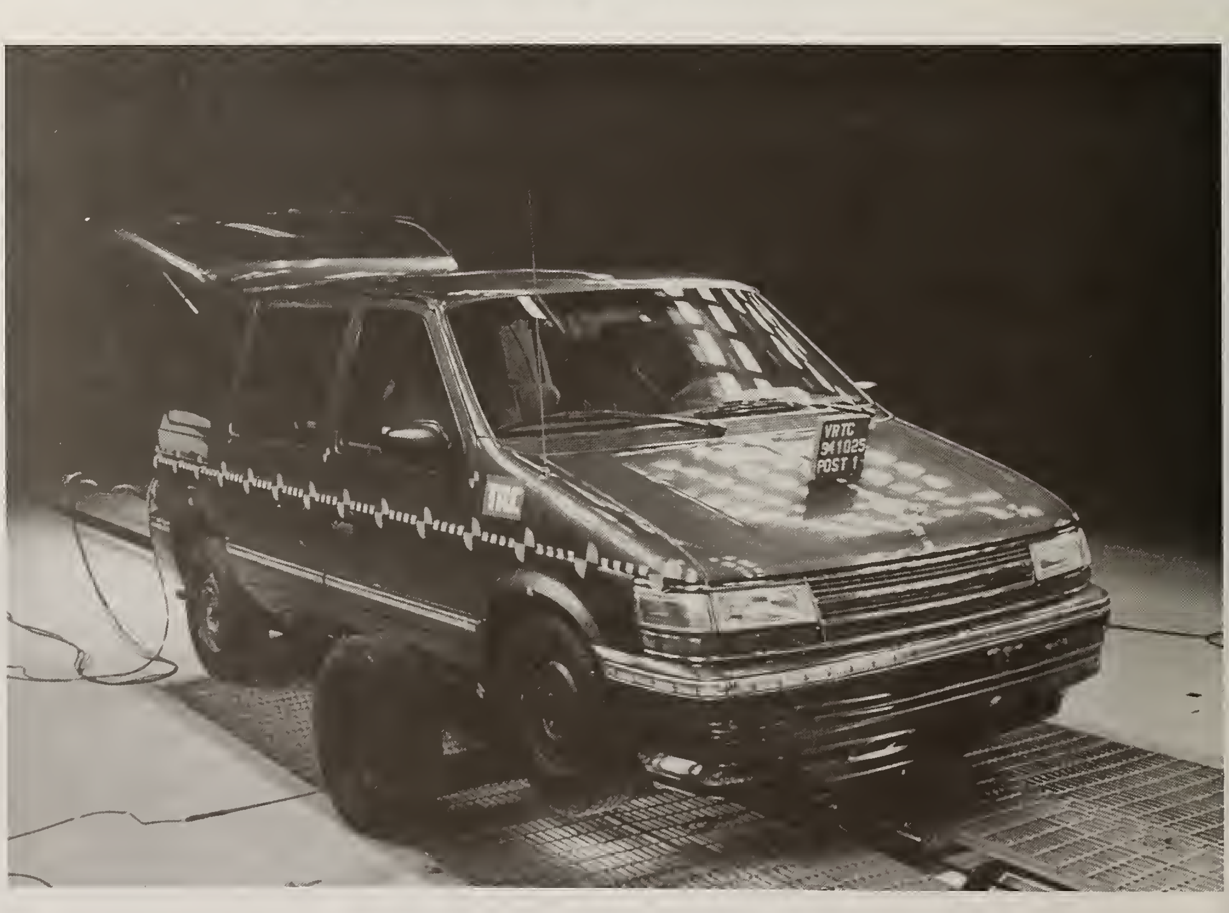


Figure A-8. Post-Test Right Front Three-Quarter View

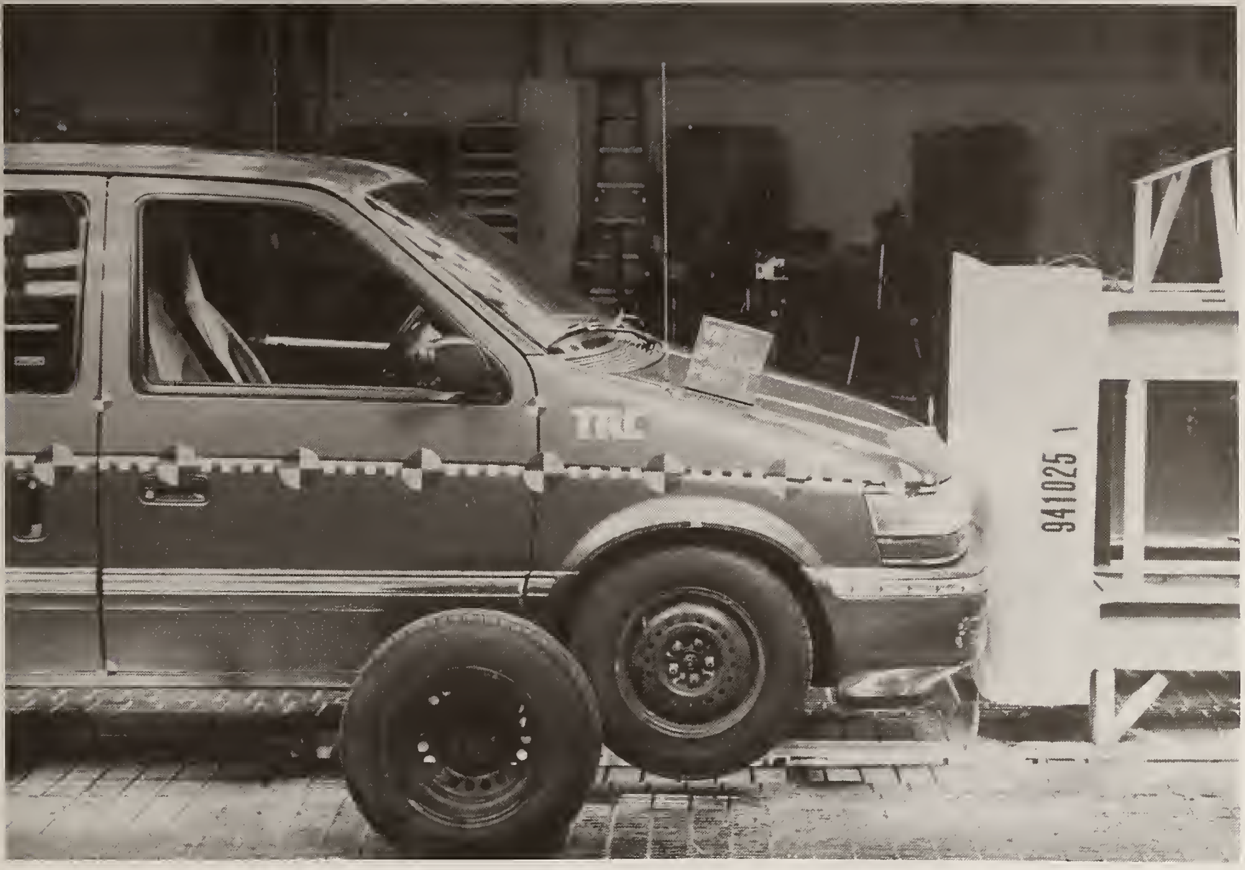


Figure A-9. Pre-Test Right Side View

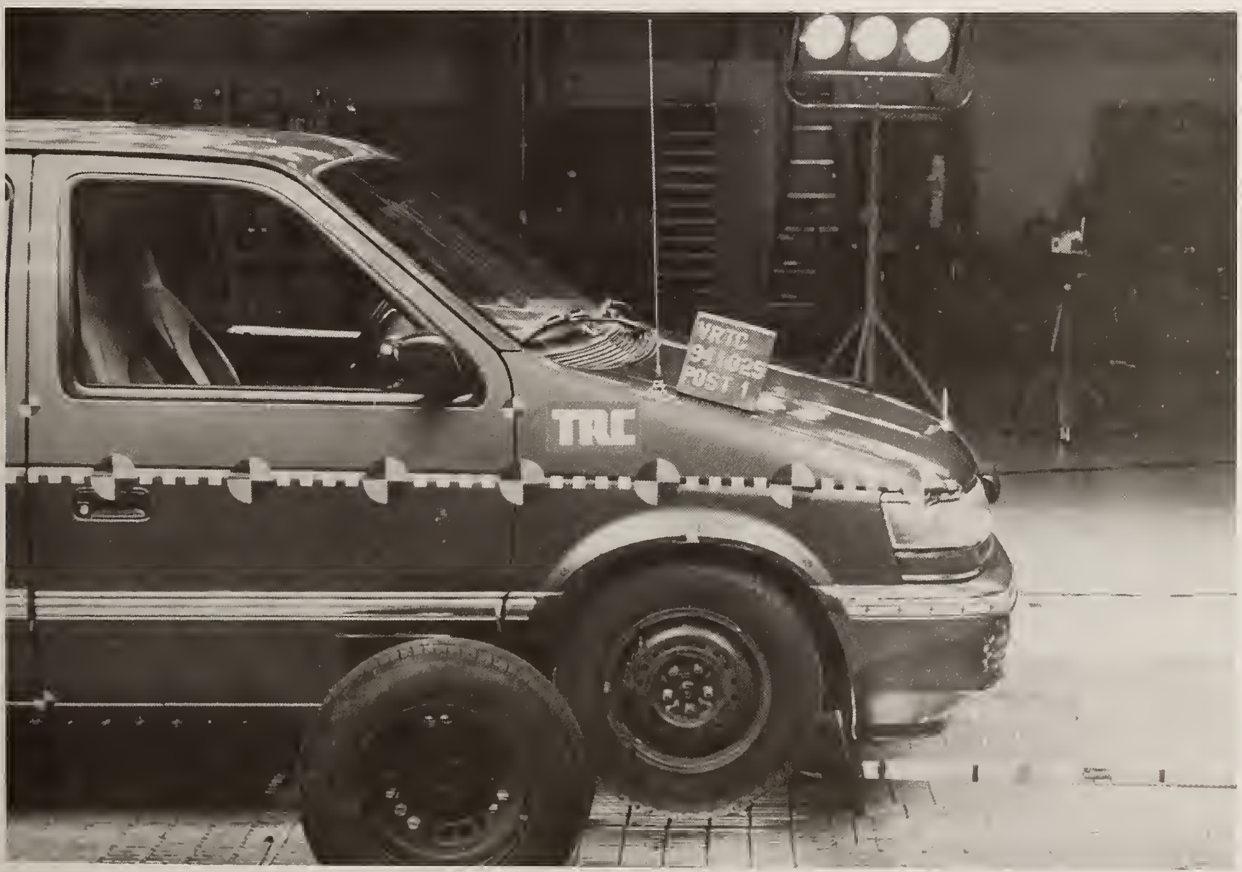


Figure A-10. Post-Test Right Side View

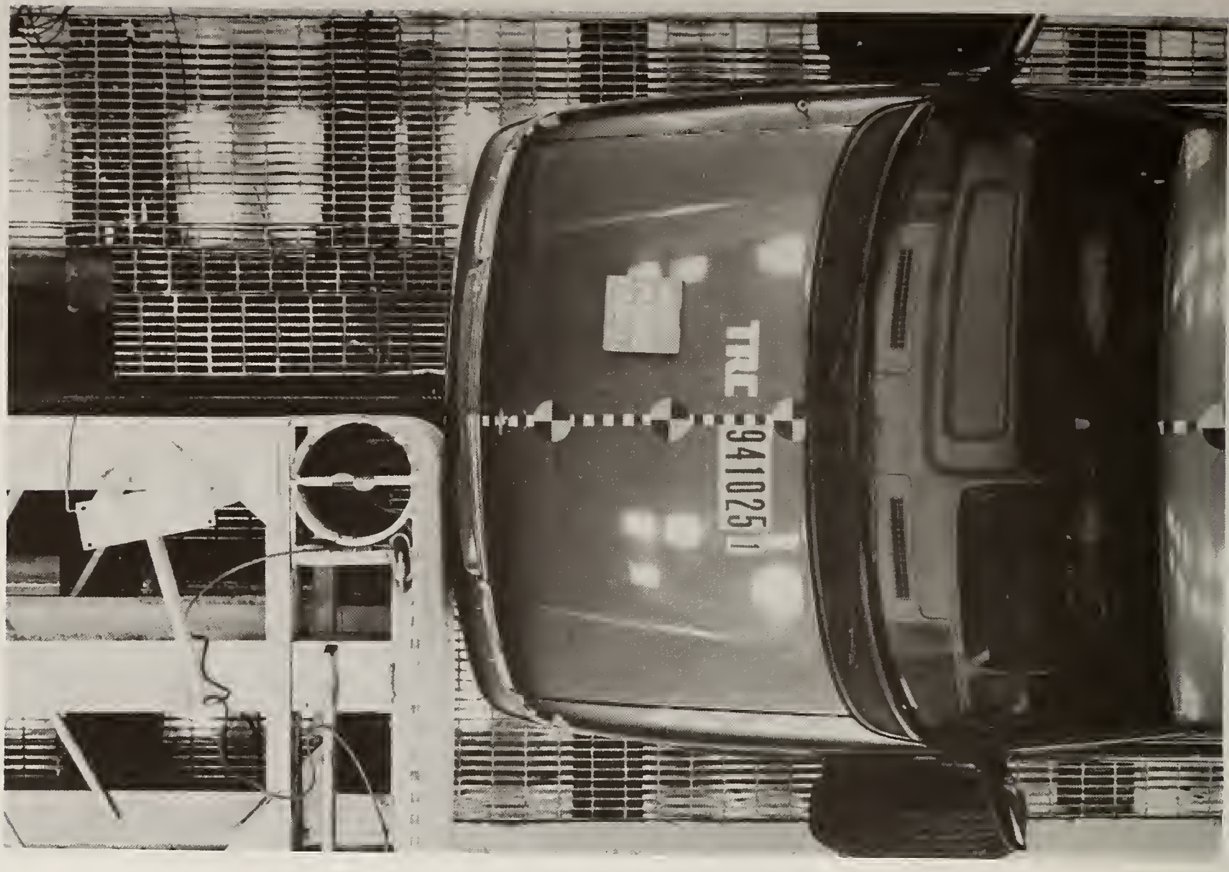


Figure A-11. Pre-Test Overhead View

List of Photographs

Test No. 941025-2

A-12. Pre-Test Overhead View

A-13. Post-Test Left Side View

A-14. Post-Test Left Front Three-Quarter View

A-15. Post-Test Front View

A-16. Post-Test Right Front Three-Quarter View

A-17. Post-Test Right Side View

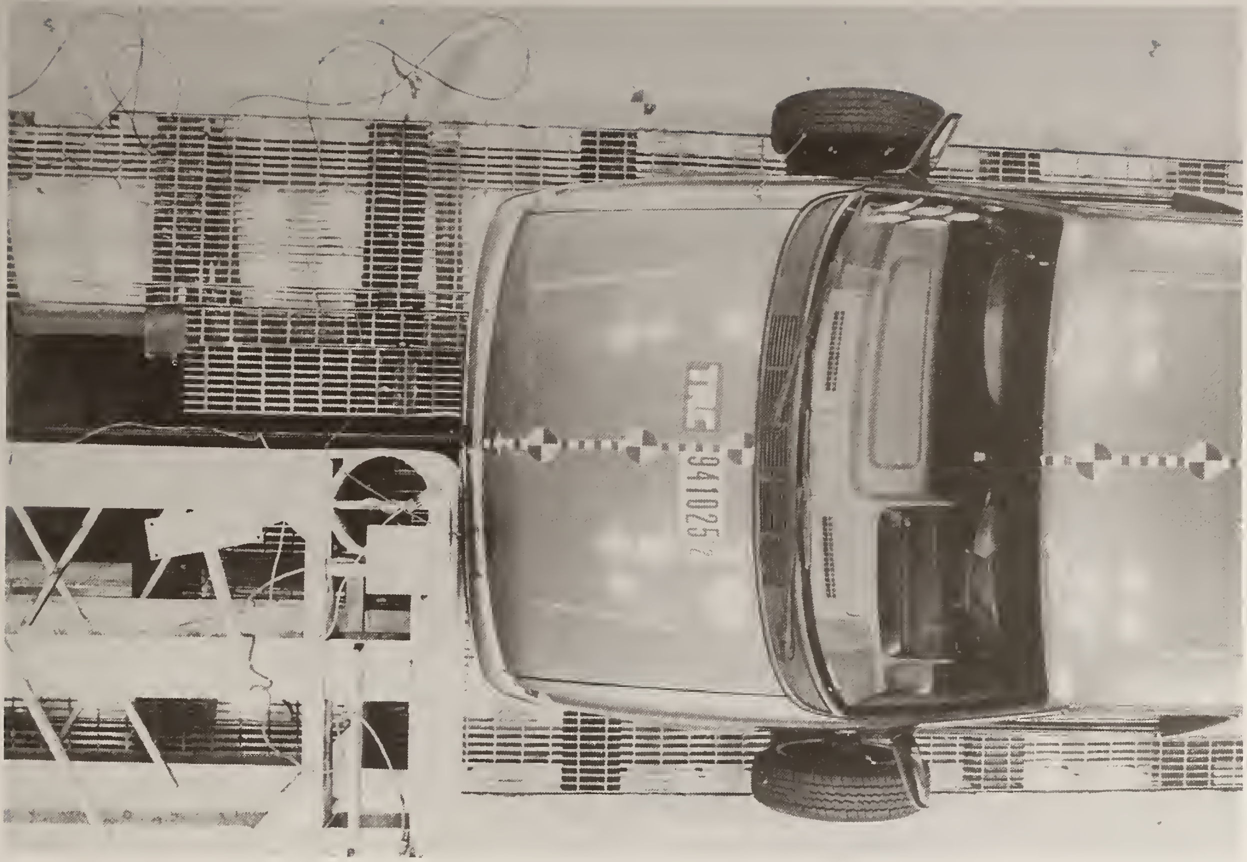


Figure A-12. Pre-Test Overhead View

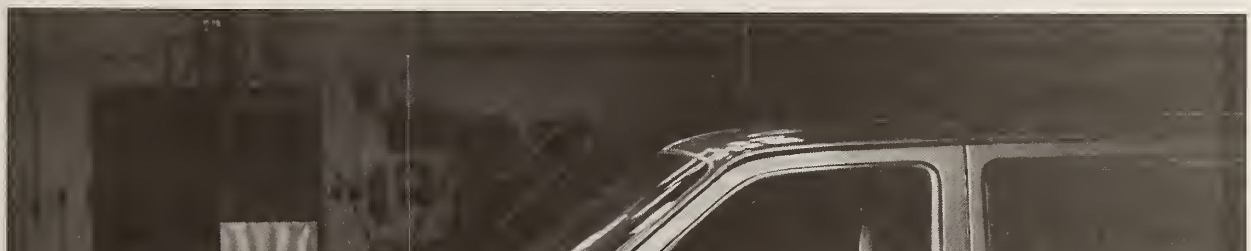


Figure A-13. Post-Test Left Side View

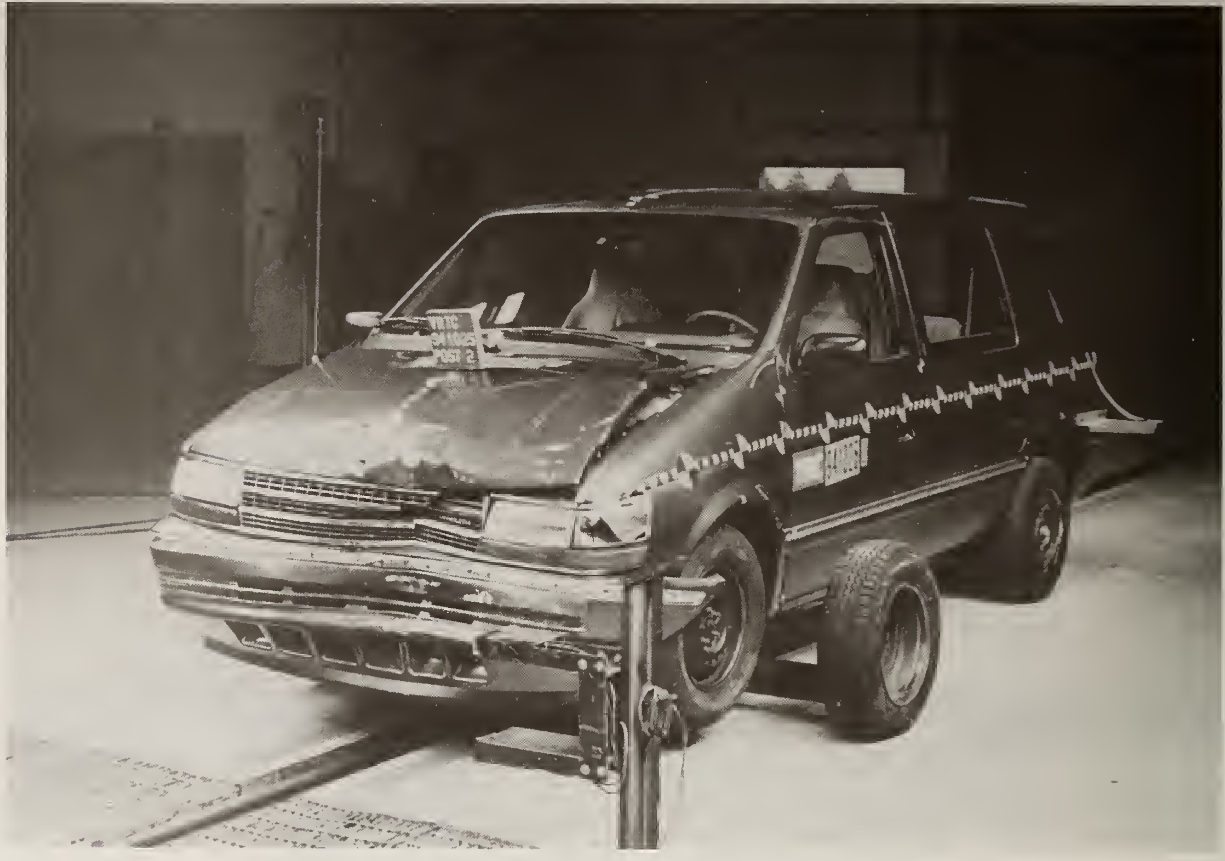


Figure A-14. Post-Test Left Front Three-Quarter View

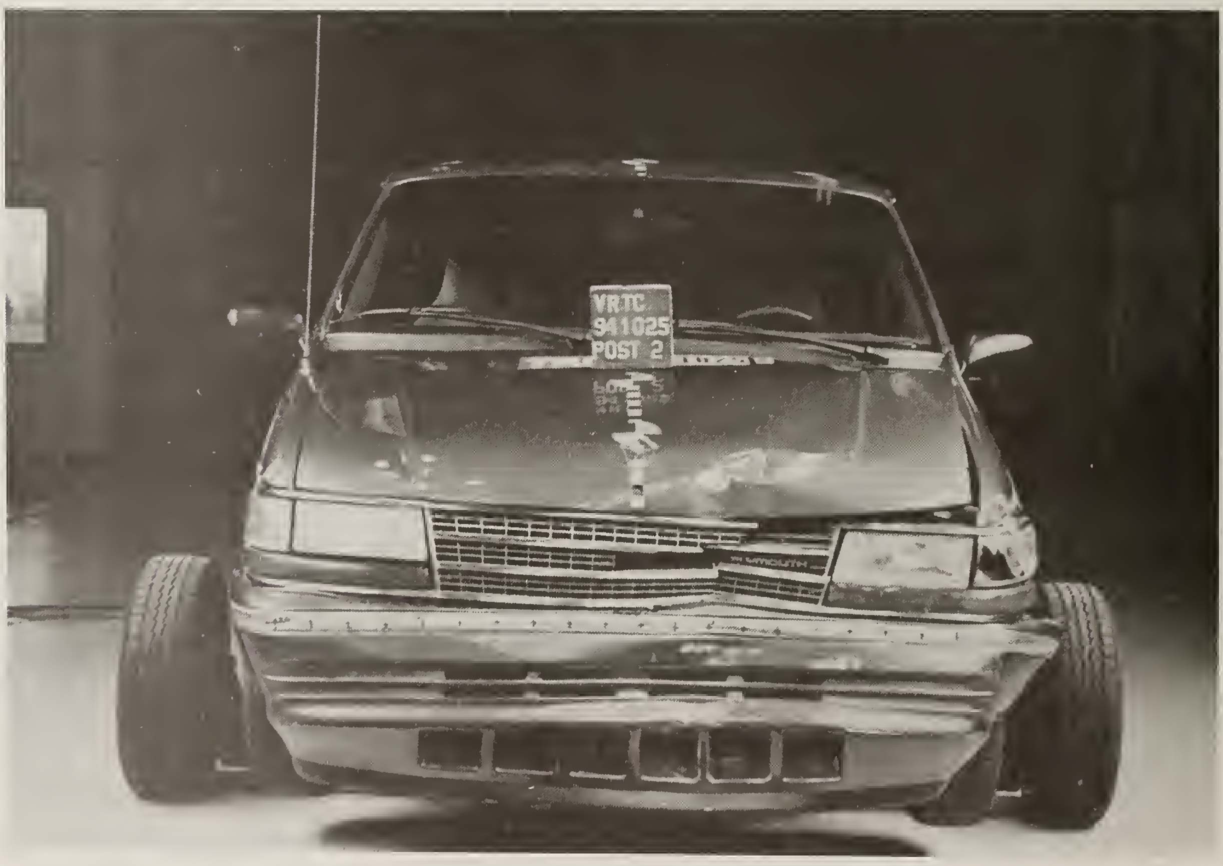


Figure A-15. Post-Test Front View

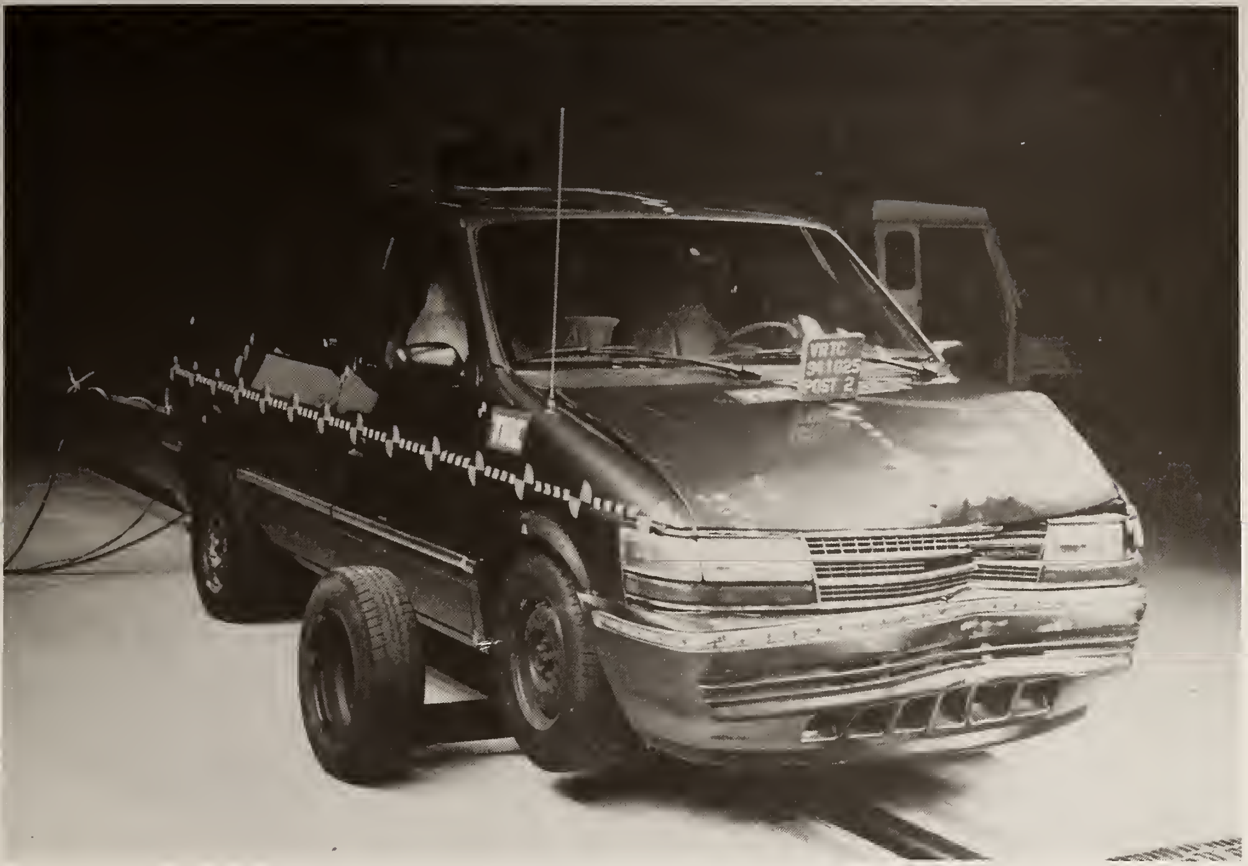


Figure A-16. Post-Test Right Front Three-Quarter View

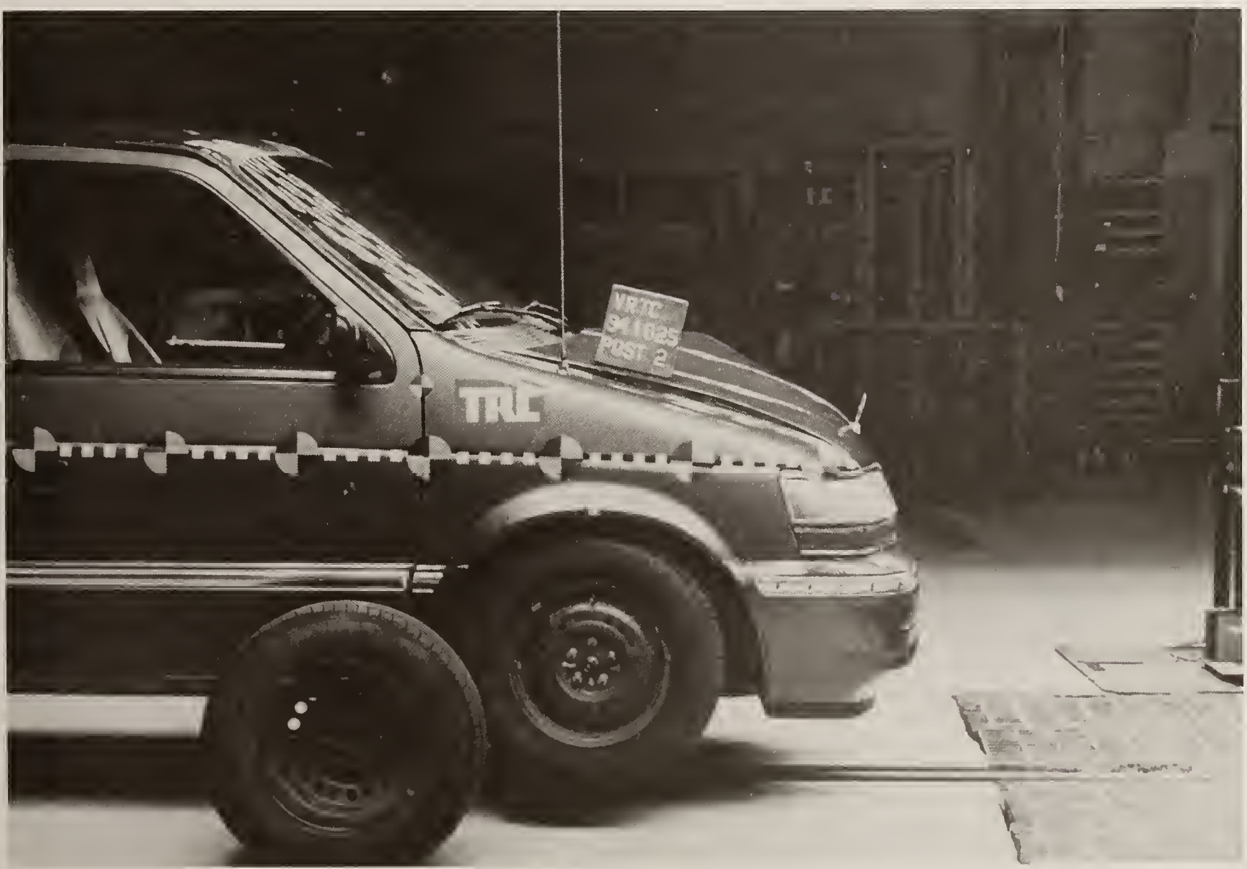


Figure A-17. Post-Test Right Side View

List of Photographs

Test No. 941025-3

A-18. Pre-Test Overhead View

A-19. Post-Test Left Side View

A-20. Post-Test Left Front Three-Quarter View

A-21. Post-Test Front View

A-22. Post-Test Right Front Three-Quarter View

A-23. Post-Test Right Side View

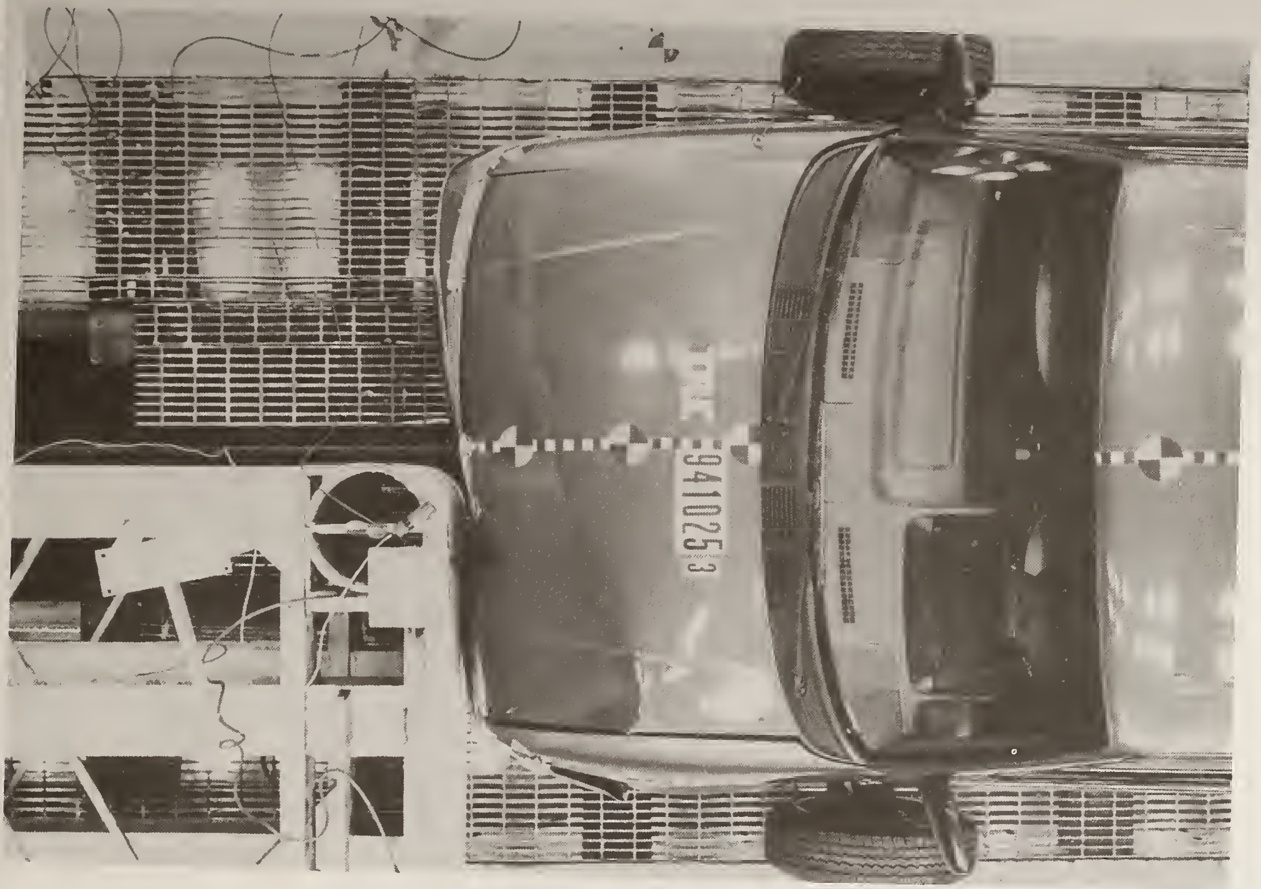


Figure A-18. Pre-Test Overhead View

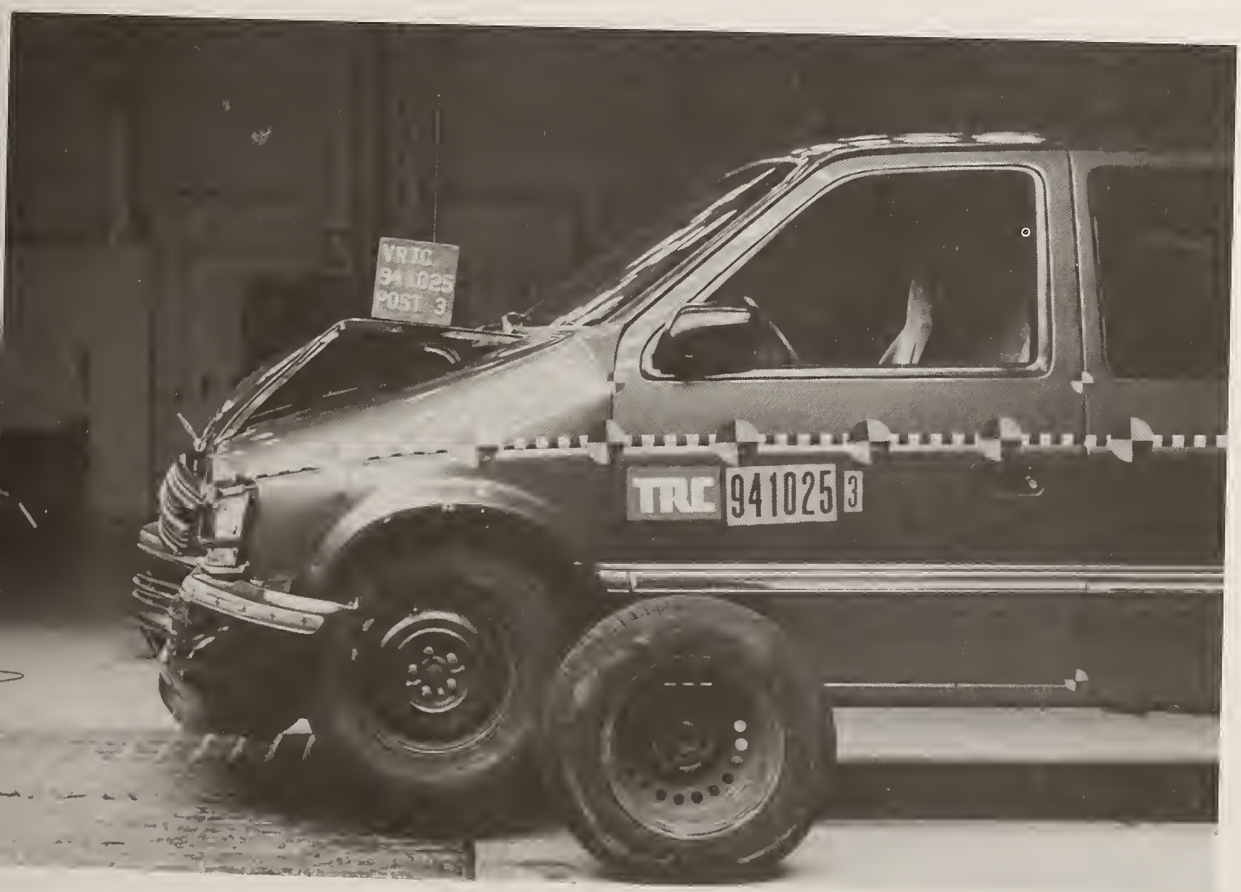


Figure A-19. Post-Test Left Side View

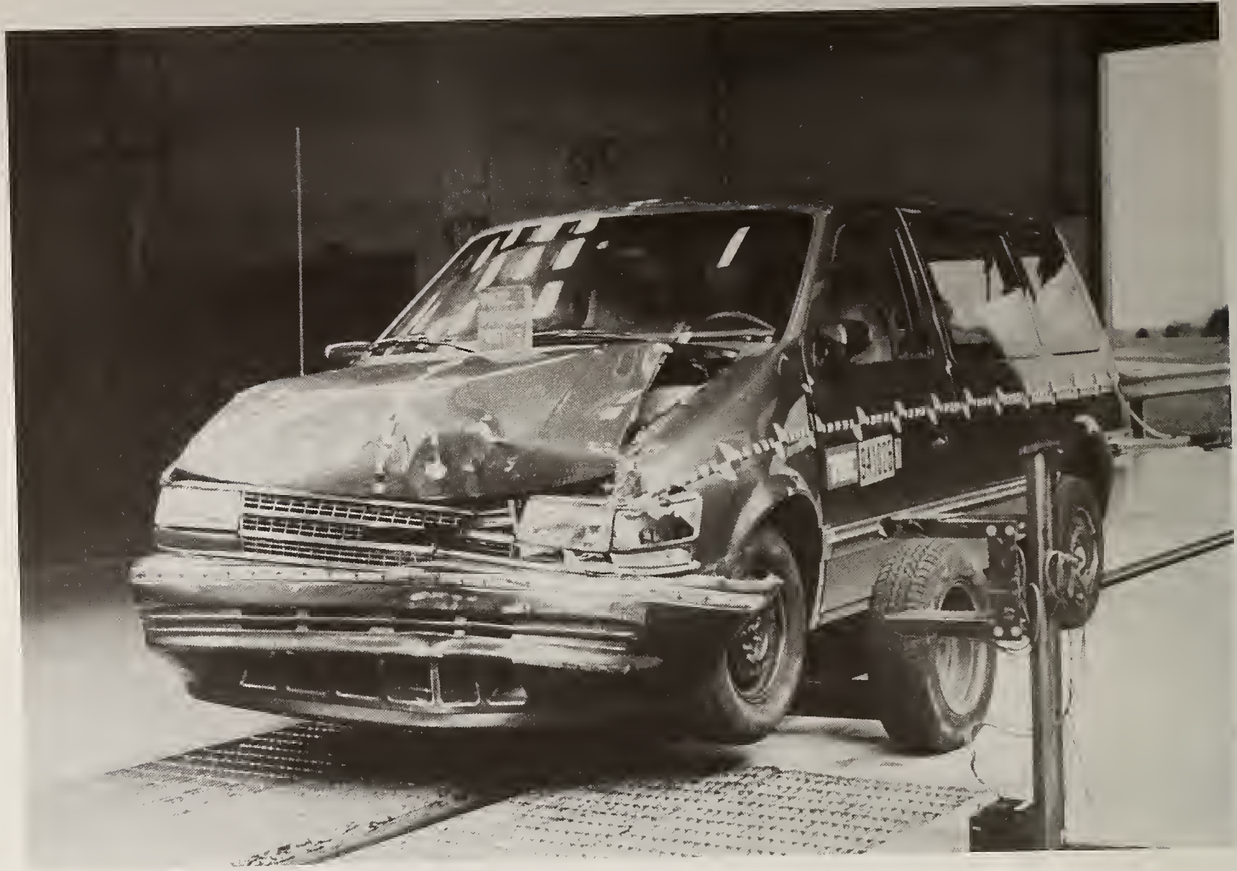


Figure A-20. Post-Test Left Front Three-Quarter View

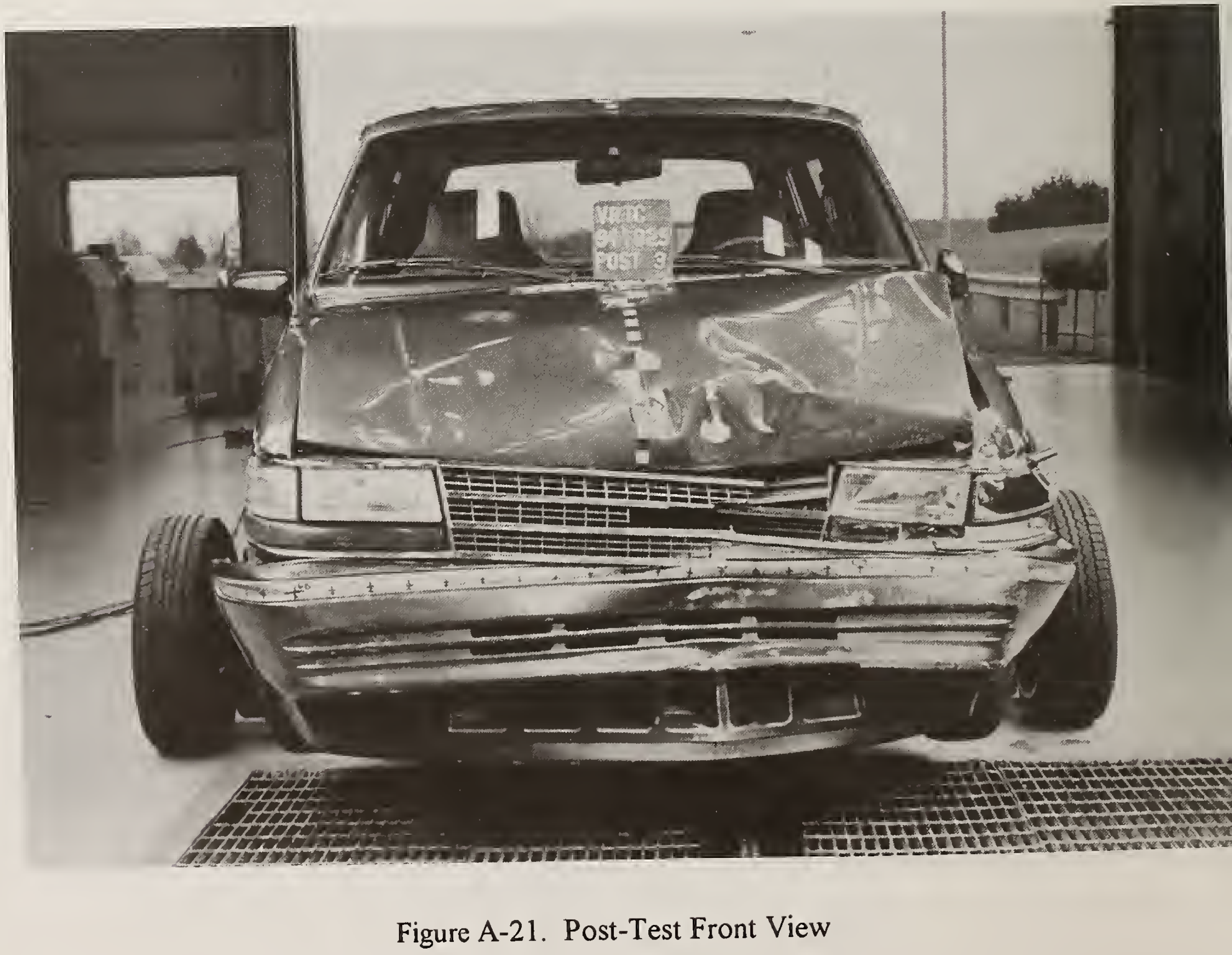


Figure A-21. Post-Test Front View

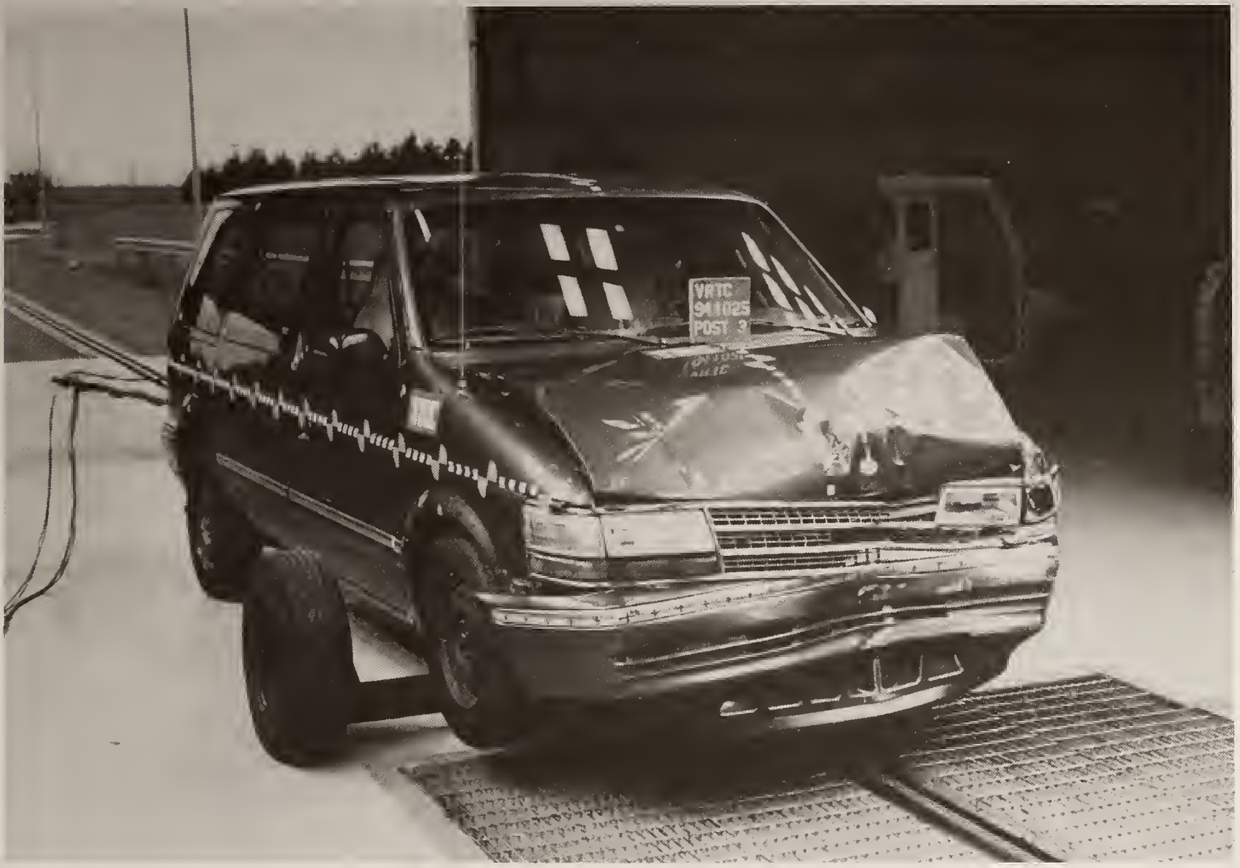


Figure A-22. Post-Test Right Front Three-Quarter View

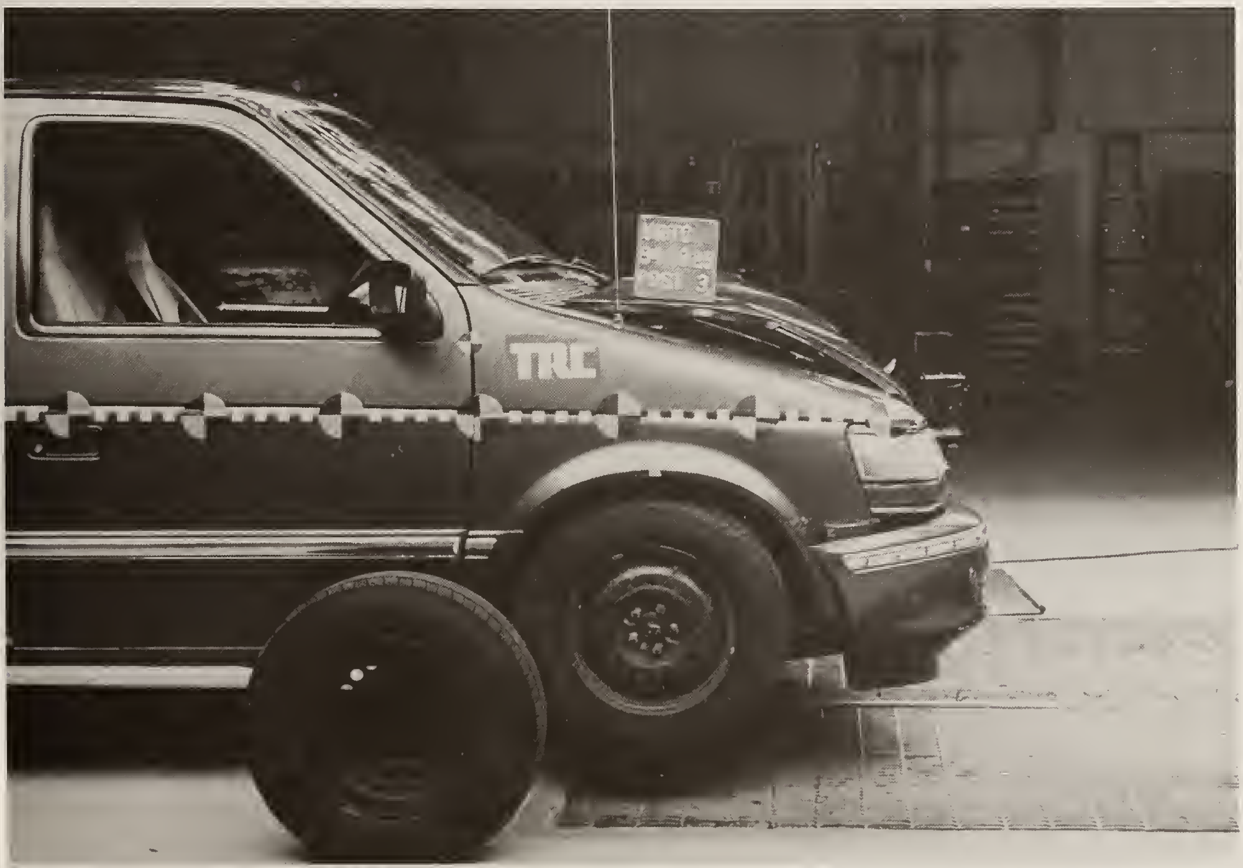


Figure A-23. Post-Test Right Side View

List of Photographs

Test No. 941025-4

A-24. Pre-Test Overhead View

A-25. Post-Test Left Side View

A-26. Post-Test Left Front Three-Quarter View

A-27. Post-Test Front View

A-28. Post-Test Right Front Three-Quarter View

A-29. Post-Test Right Side View

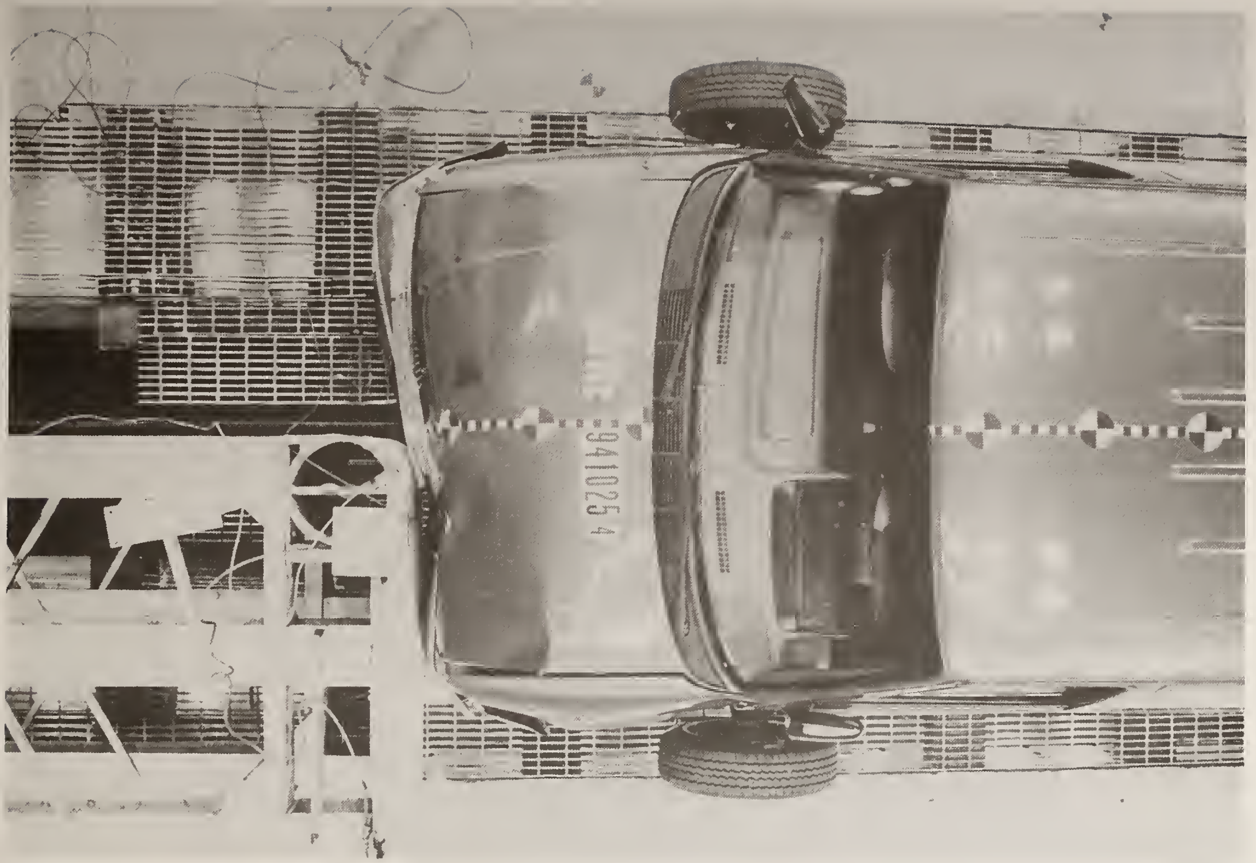


Figure A-24. Pre-Test Overhead View

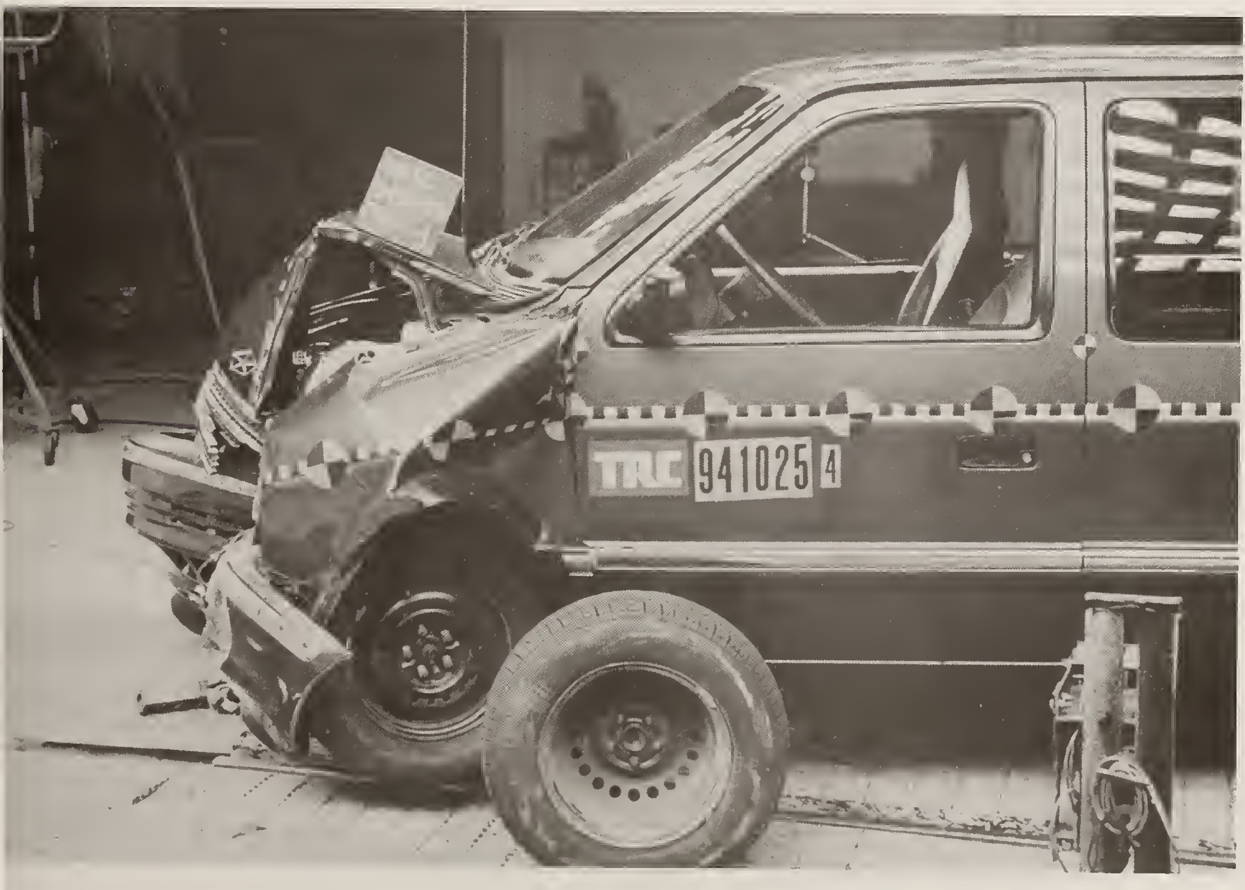


Figure A-25. Post-Test Left Side View

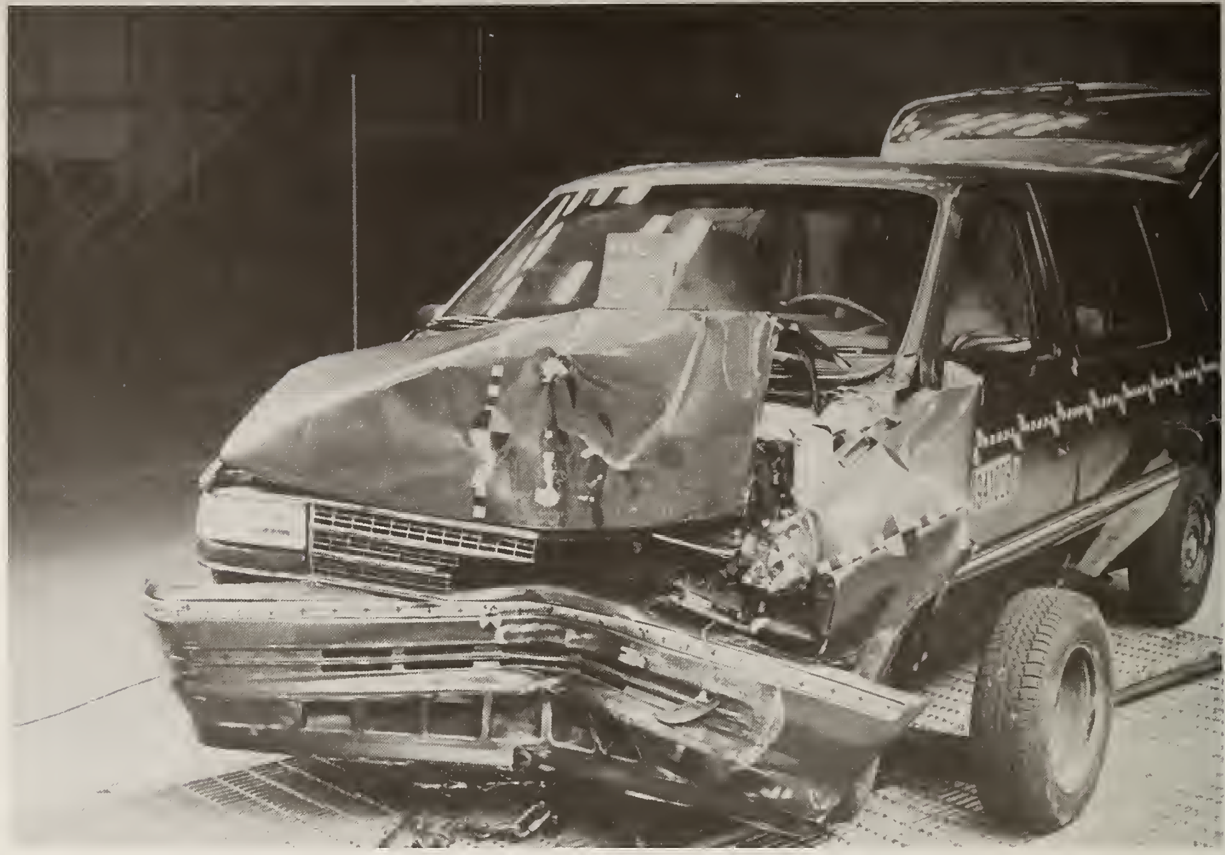


Figure A-26. Post-Test Left Front Three-Quarter View

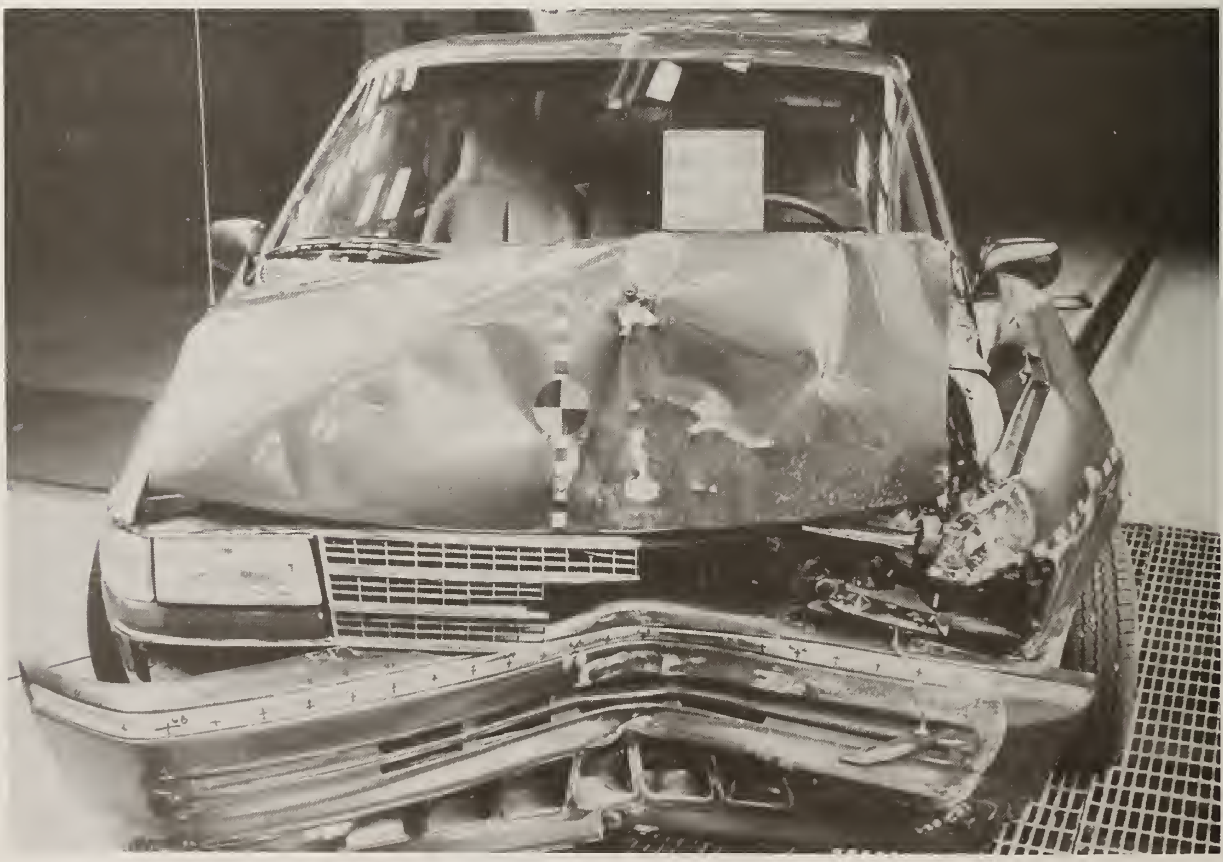


Figure A-27. Post-Test Front View

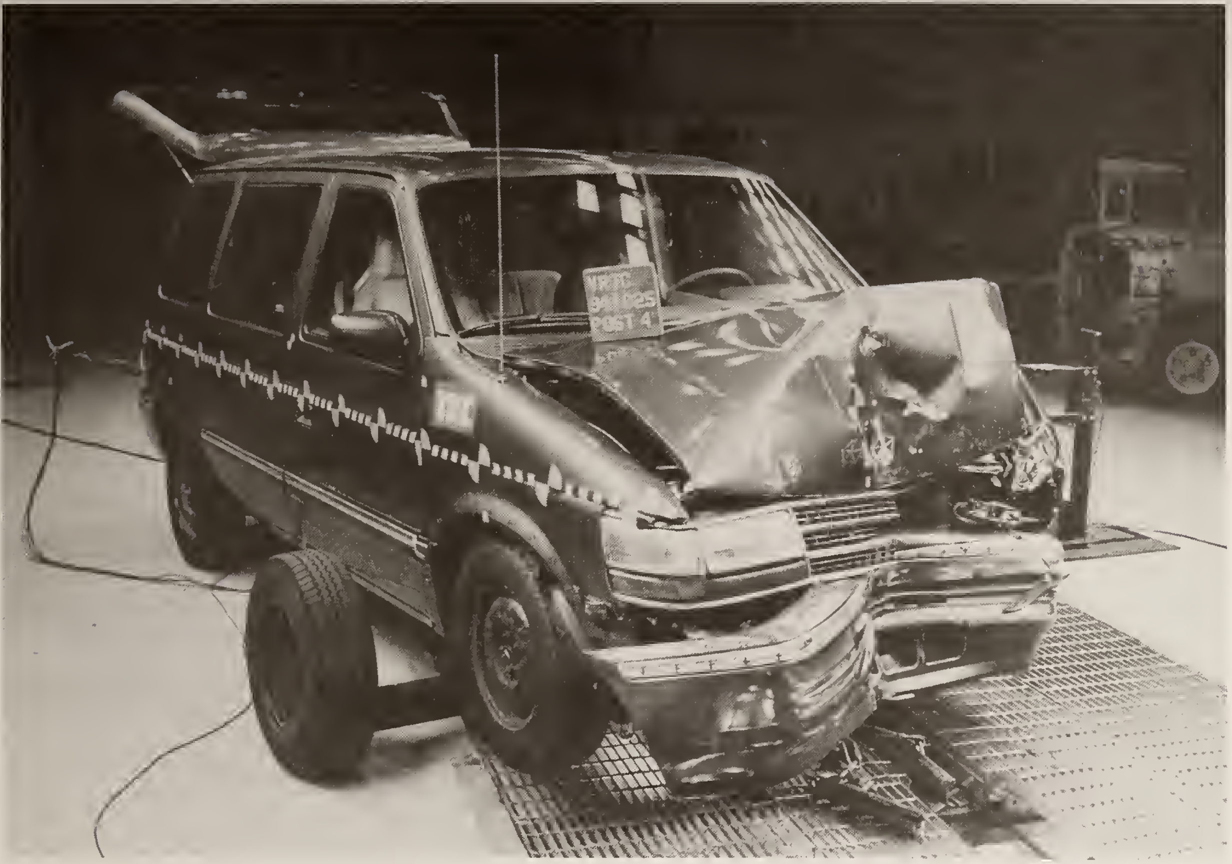


Figure A-28. Post-Test Right Front Three-Quarter View

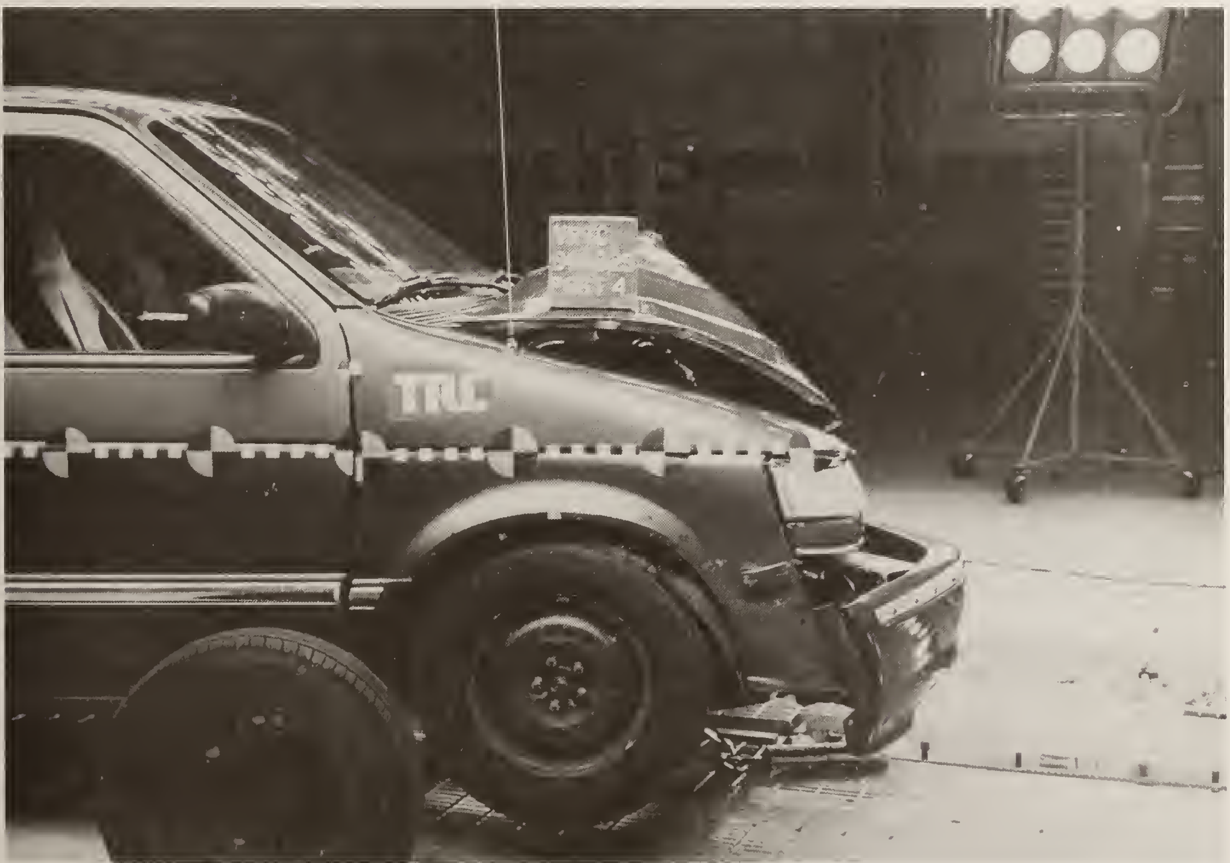


Figure A-29. Post-Test Right Side View

List of Photographs

Test No. 941025-5

A-30. Pre-Test Overhead View

A-31. Post-Test Left Side View

A-32. Post-Test Left Front Three-Quarter View

A-33. Post-Test Front View

A-34. Post-Test Right Front Three-Quarter View

A-35. Post-Test Right Side View

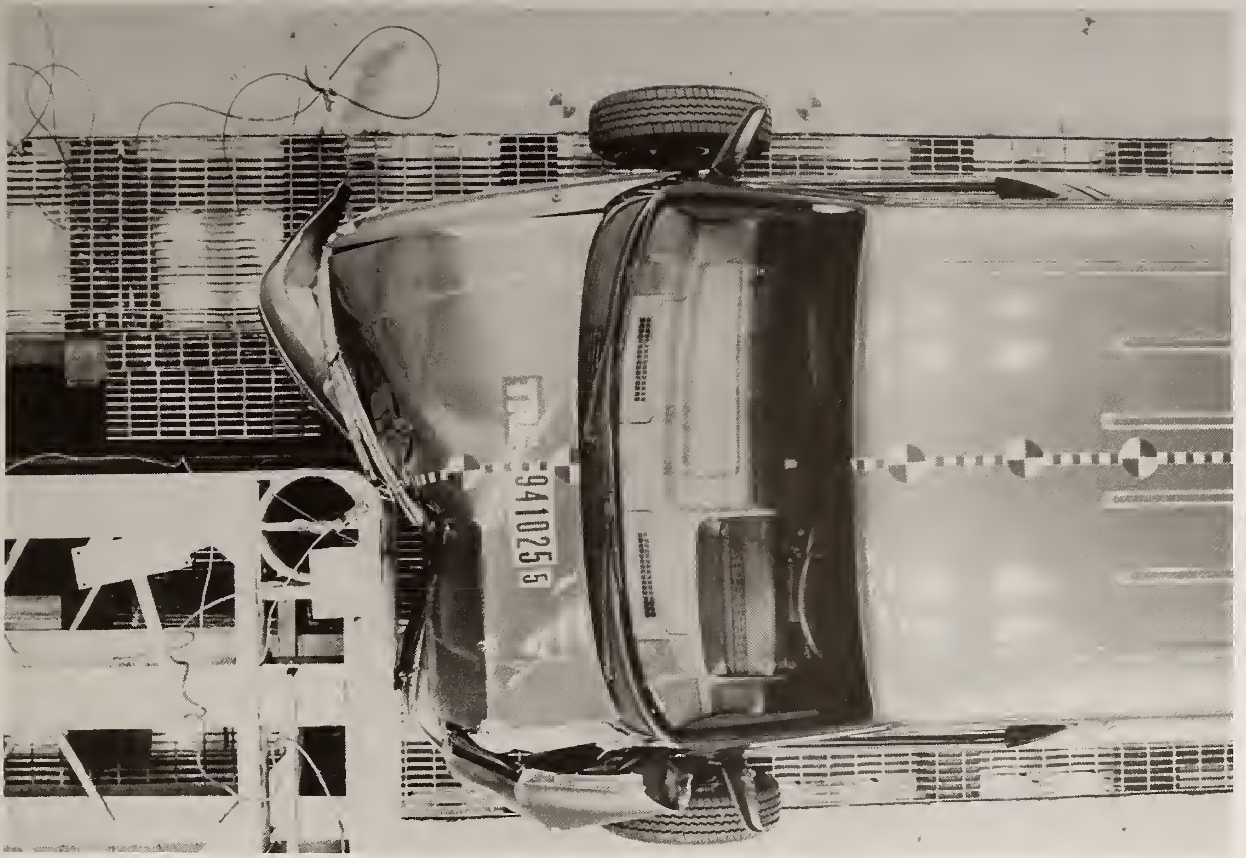


Figure A-30. Pre-Test Overhead View

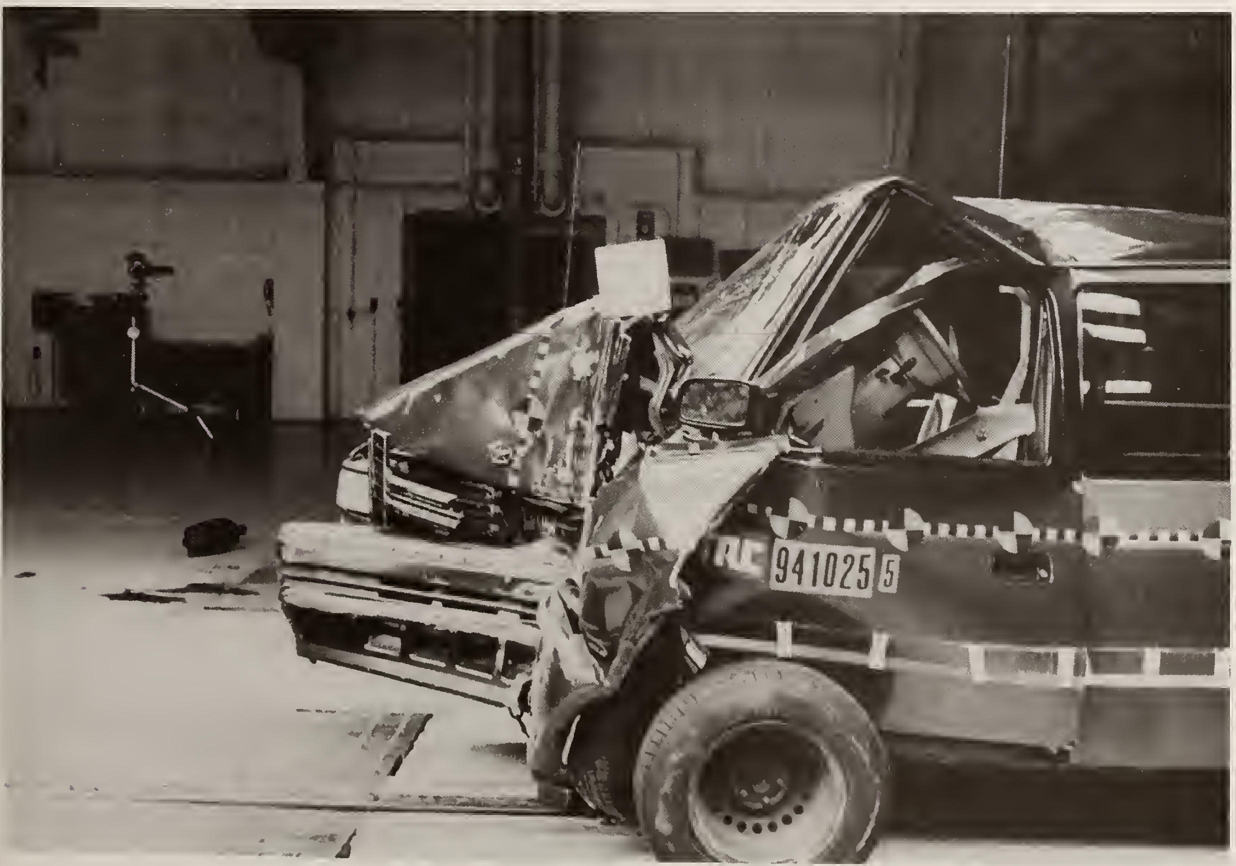


Figure A-31. Post-Test Left Side View

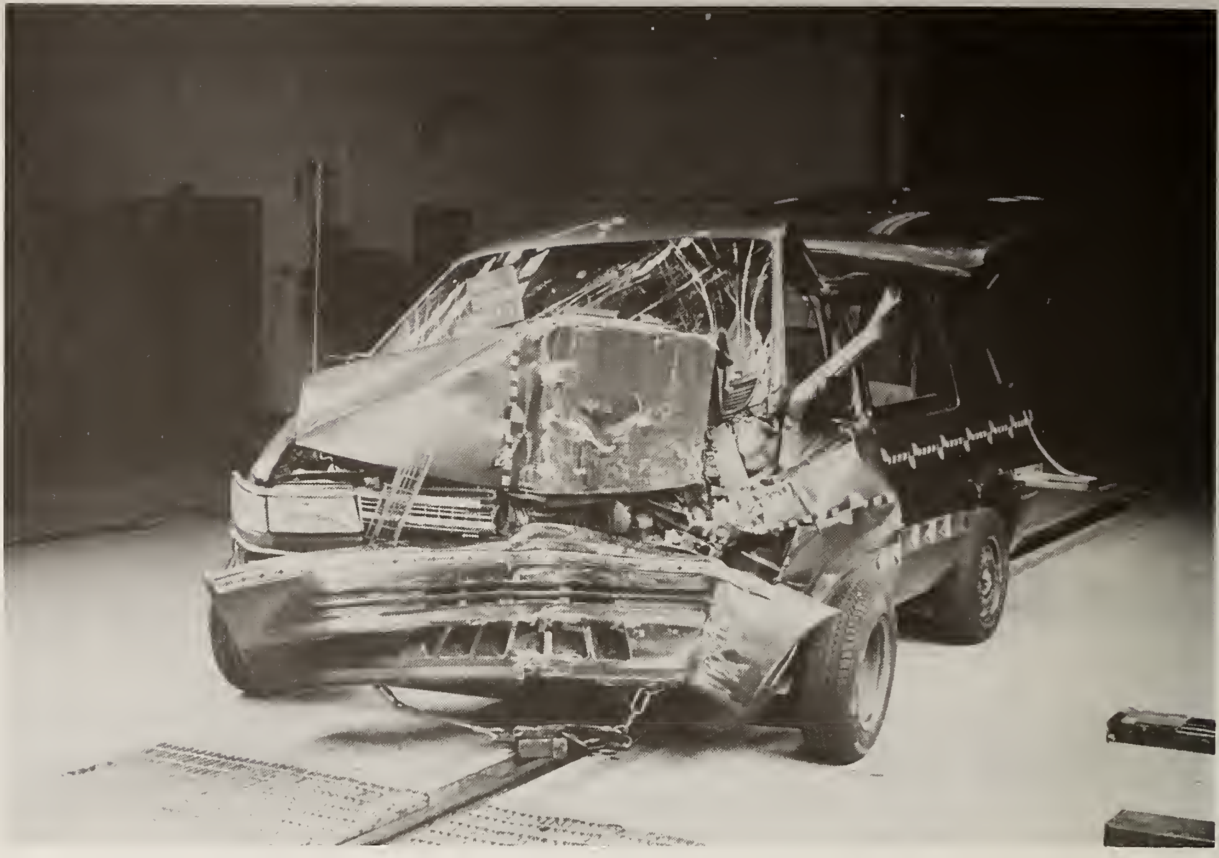


Figure A-32. Post-Test Left Front Three-Quarter View

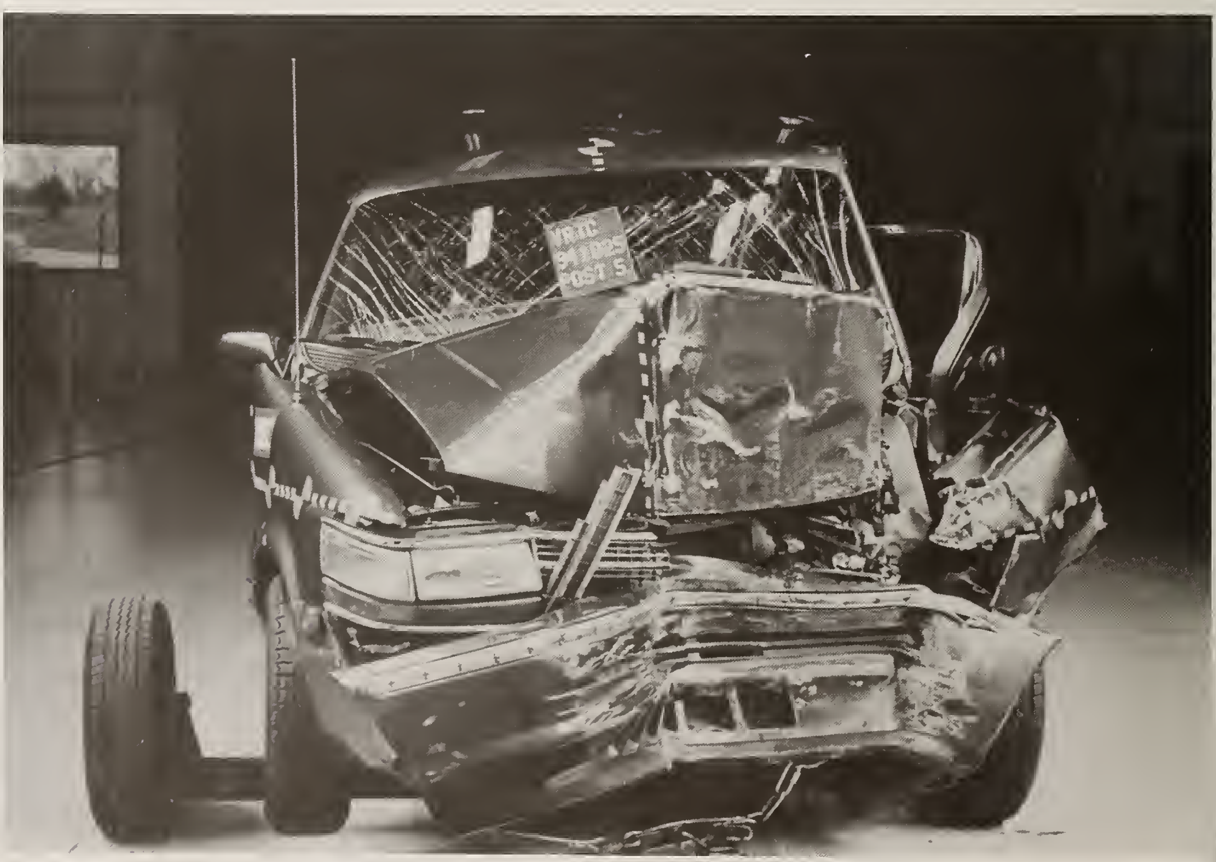


Figure A-33. Post-Test Front View

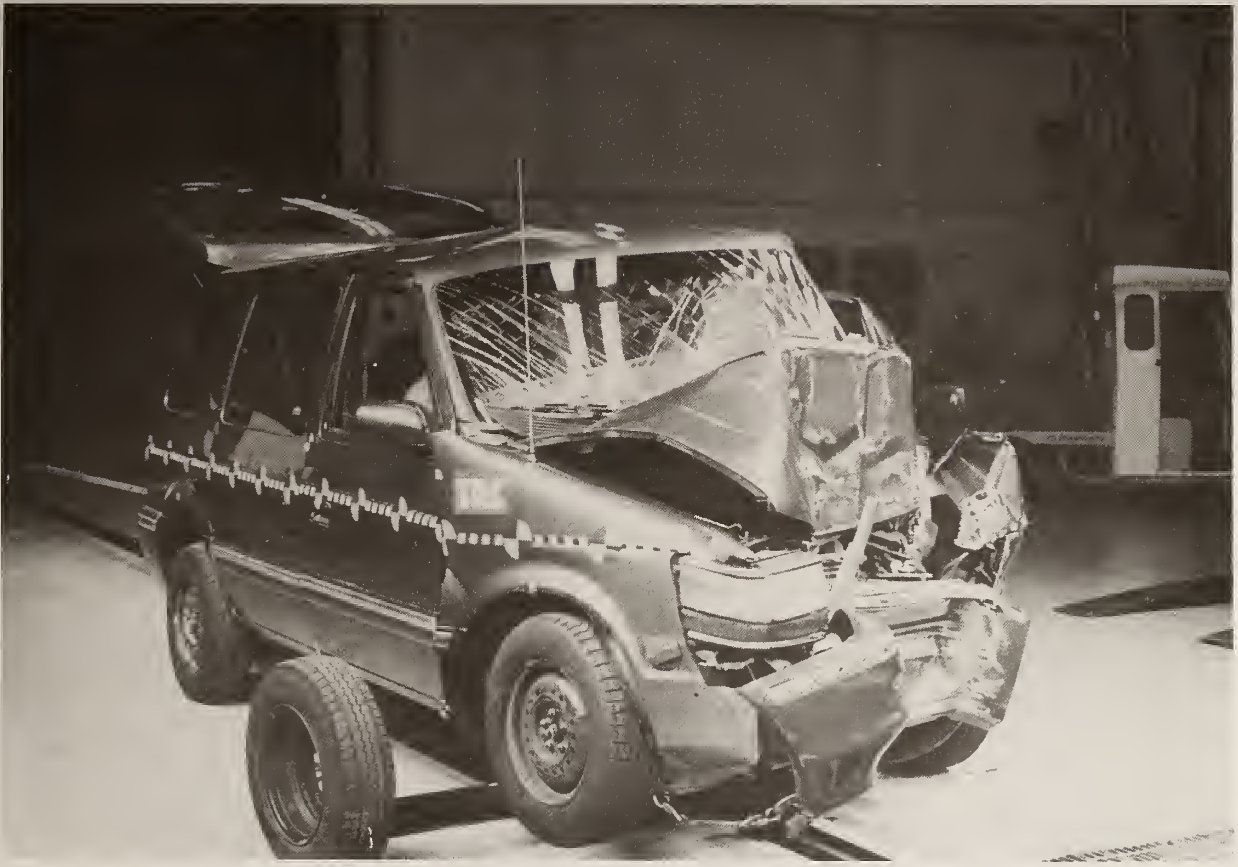


Figure A-34. Post-Test Right Front Three-Quarter View

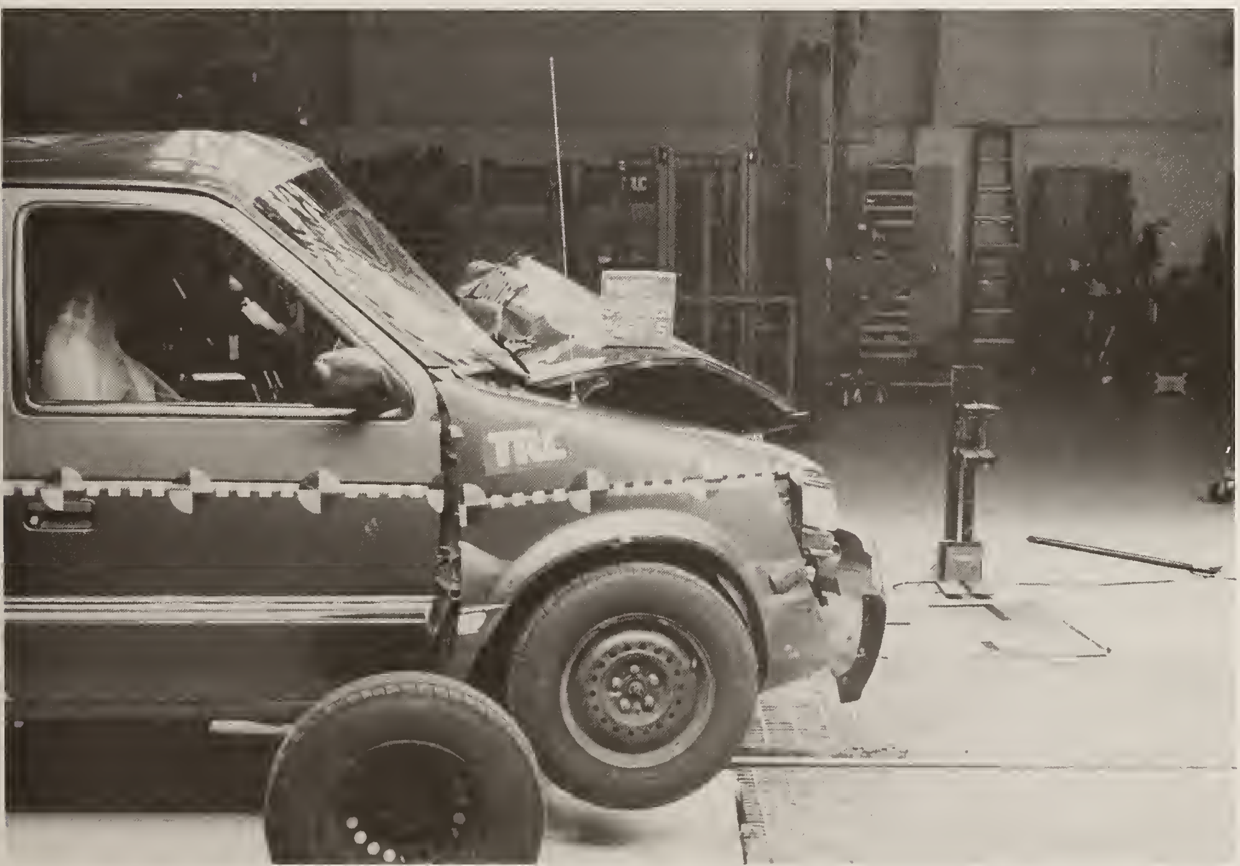


Figure A-35. Post-Test Right Side View

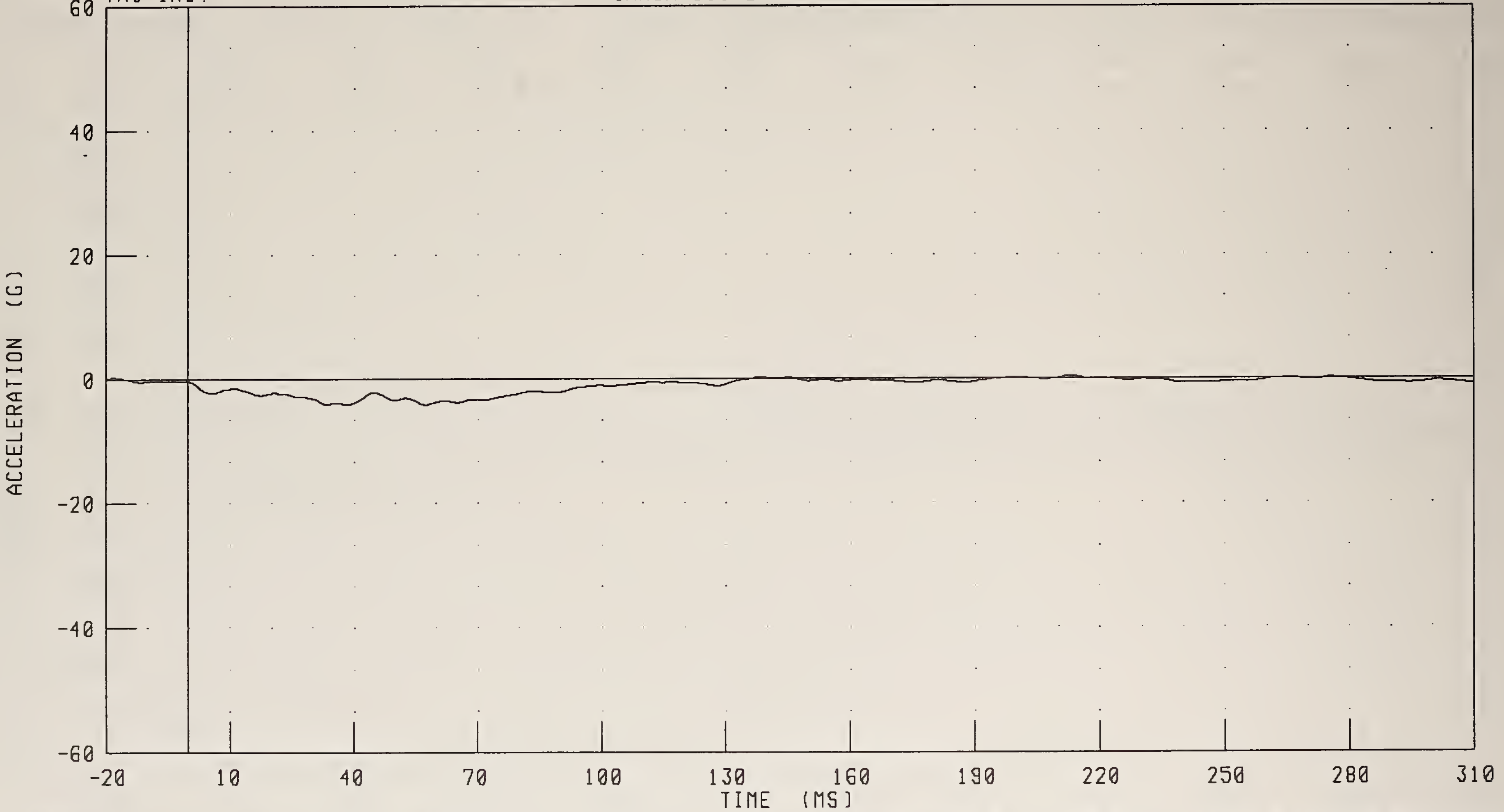
Data Plots

Test No. 941025-1

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

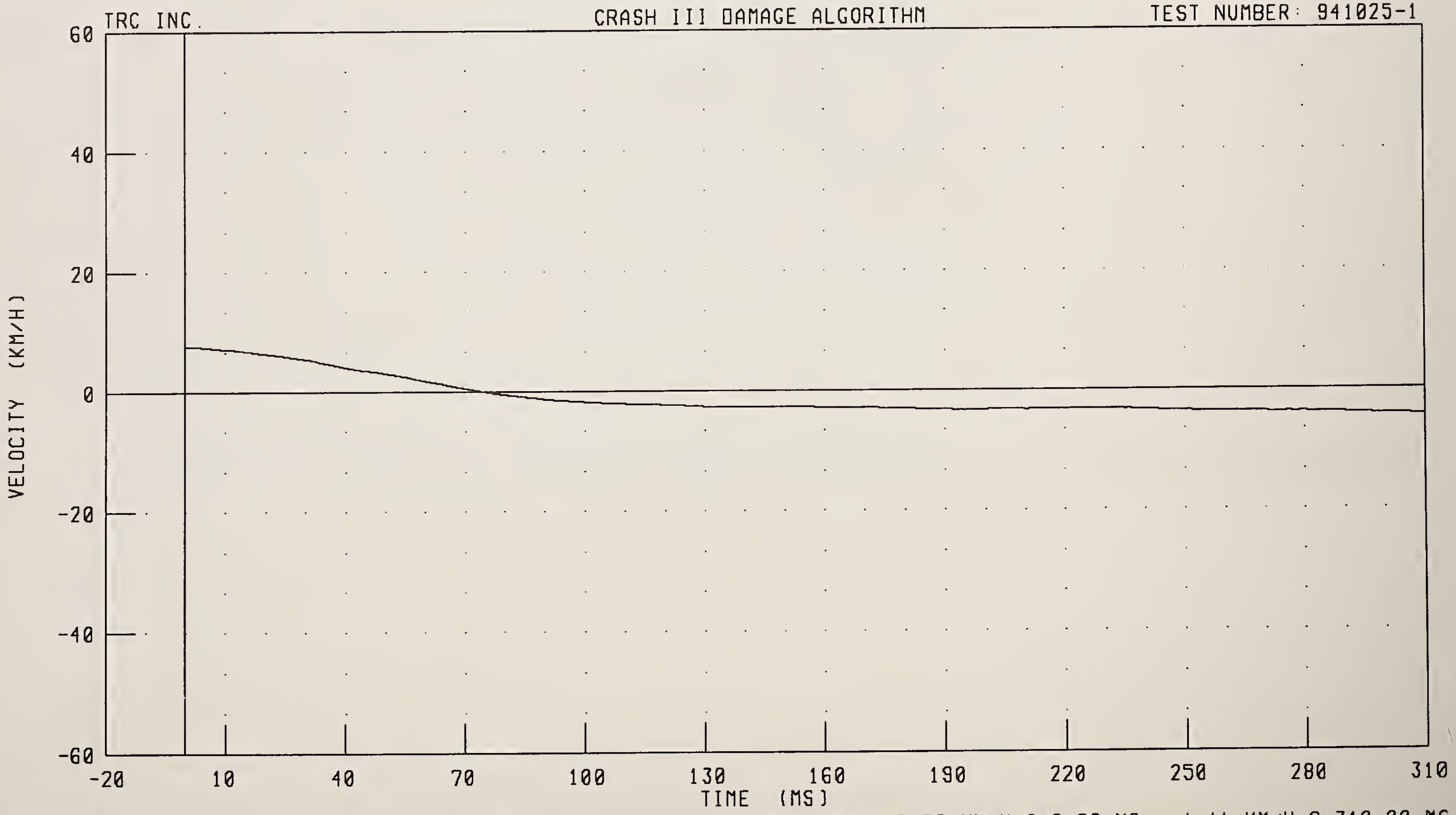
TRC INC.

TEST NUMBER: 941025-1



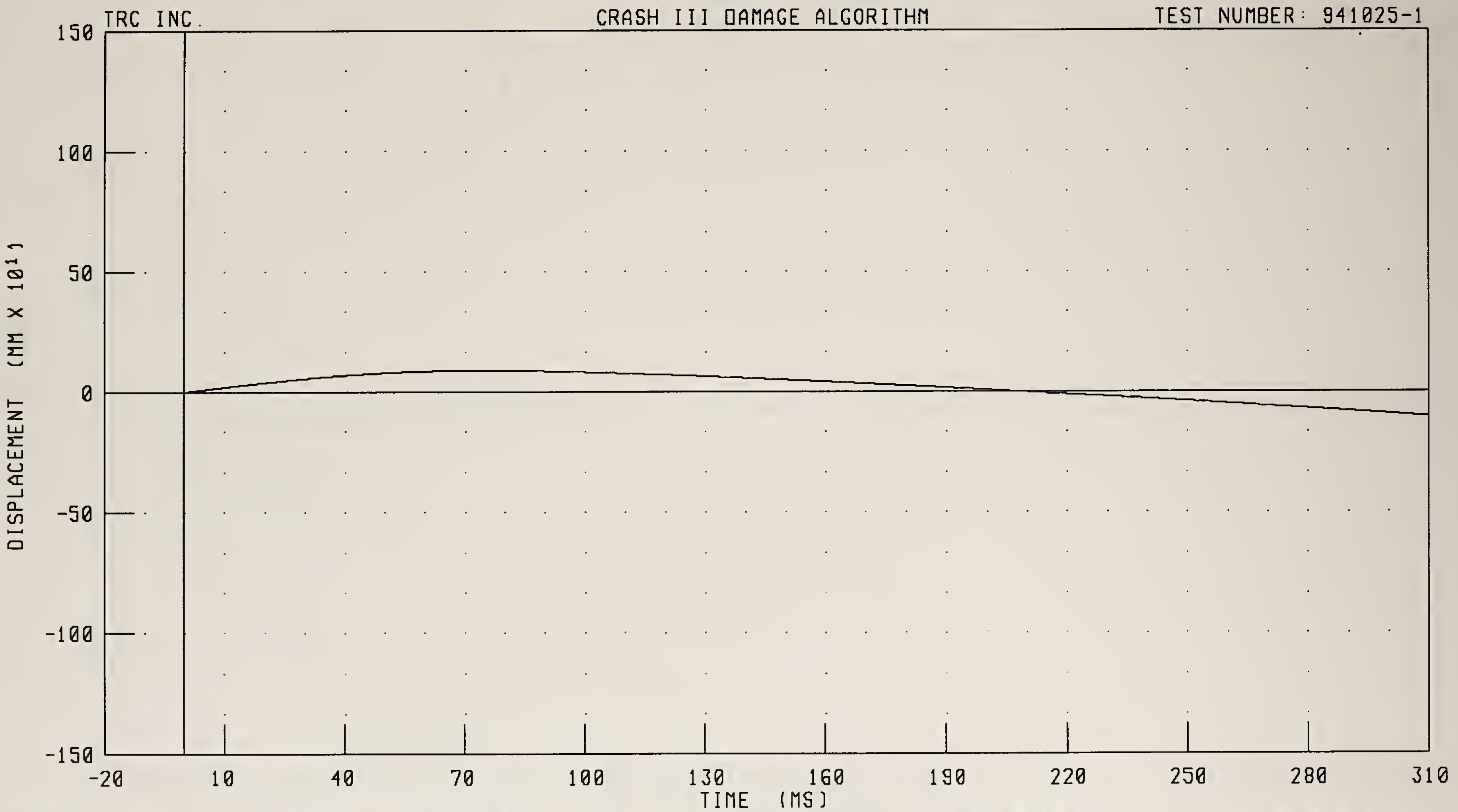
CHANNEL: VCGXG FILTER: CH. CLASS 60 PEAK DATA: 0.38 G @ 212.96 MS; -4.18 G @ 57.52 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGXV FILTER: CH. CLASS 180 PEAK DATA: 7.70 KM/H @ 0.00 MS; -4.41 KM/H @ 310.00 MS

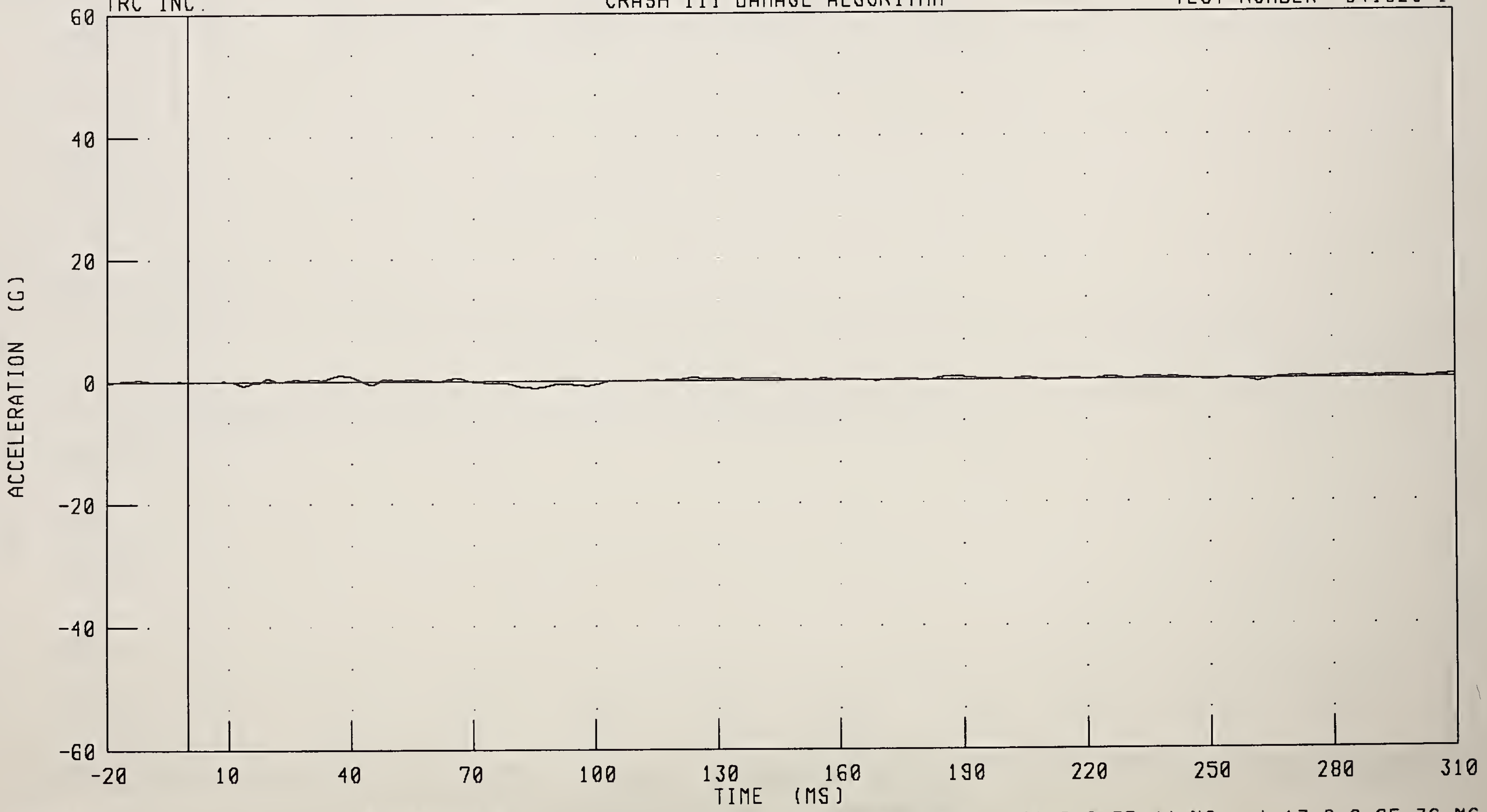
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGXD FILTER: CH. CLASS 180 PEAK DATA: 89.88 MM @ 74.64 MS; -103.63 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC. TEST NUMBER: 941025-1

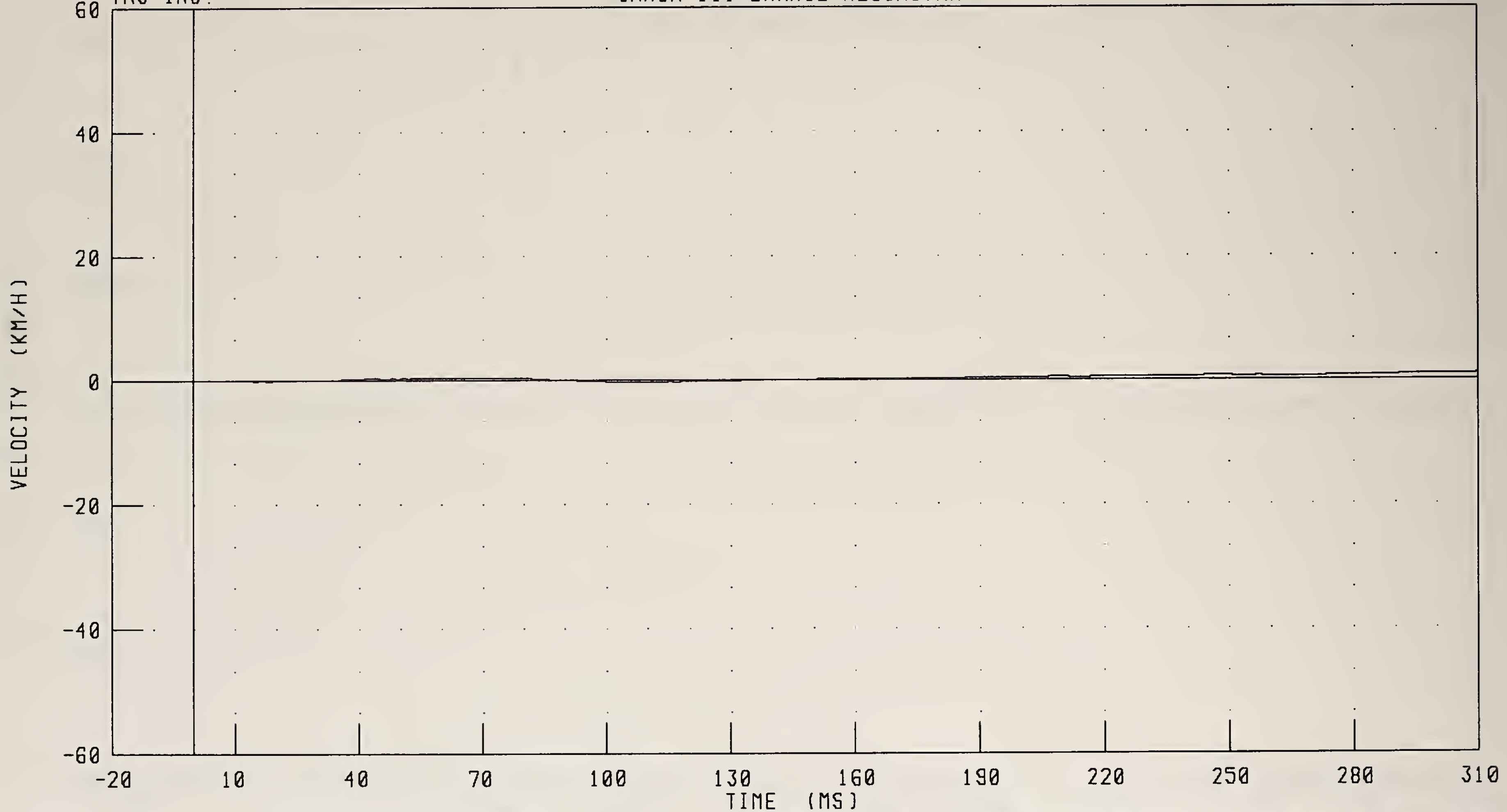


CHANNEL: VCGYG FILTER: CH. CLASS 60 PEAK DATA: 1.01 G @ 37.44 MS; -1.13 G @ 85.36 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-1

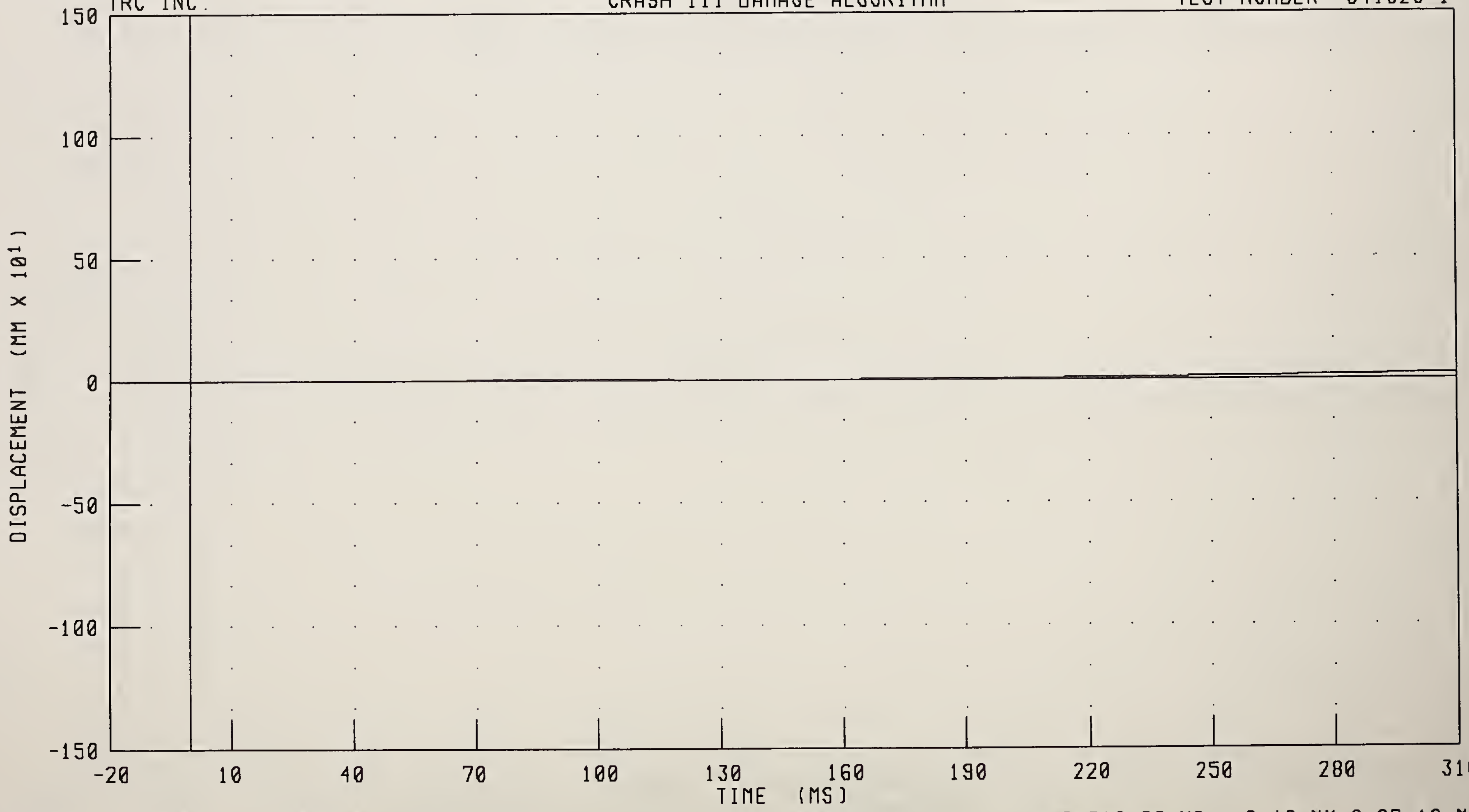


CHANNEL: VCGYV   FILTER: CH. CLASS 180   PEAK DATA: 0.95 KM/H @ 310.00 MS; -0.28 KM/H @ 110.16 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

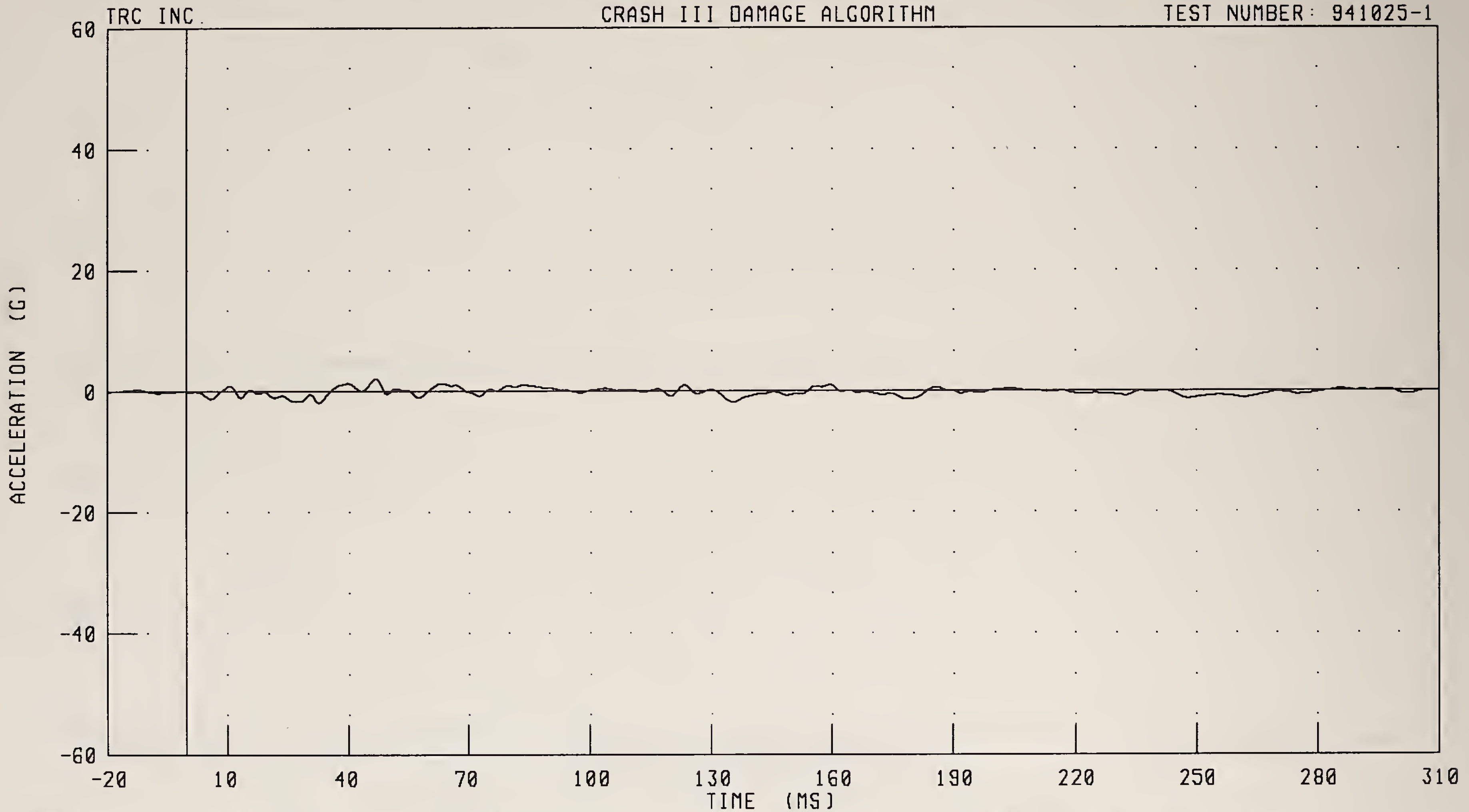
TRC INC.

TEST NUMBER: 941025-1



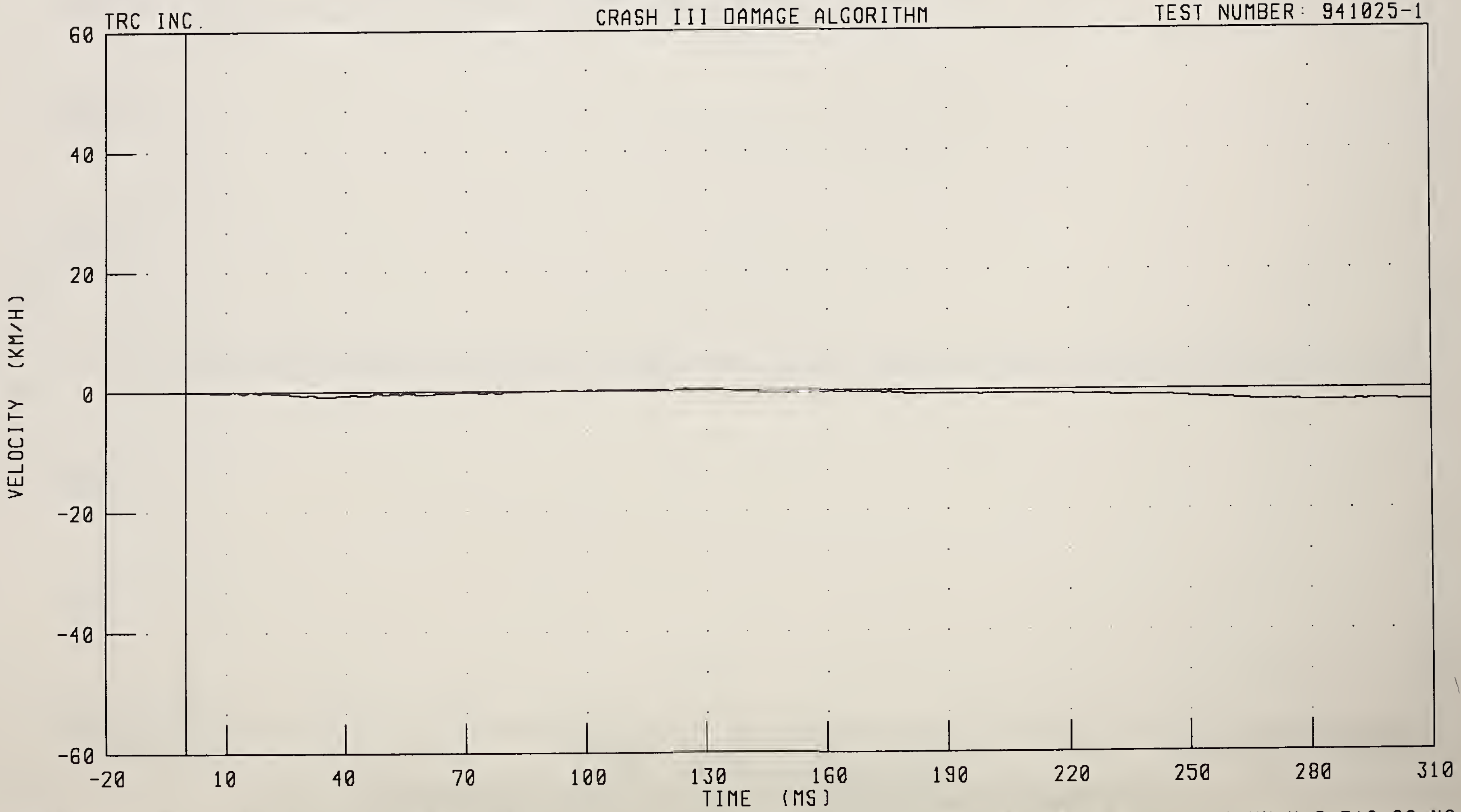
CHANNEL: VCGYD   FILTER: CH. CLASS 180   PEAK DATA: 23.33 MM @ 310.00 MS; -0.19 MM @ 27.12 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG Z-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



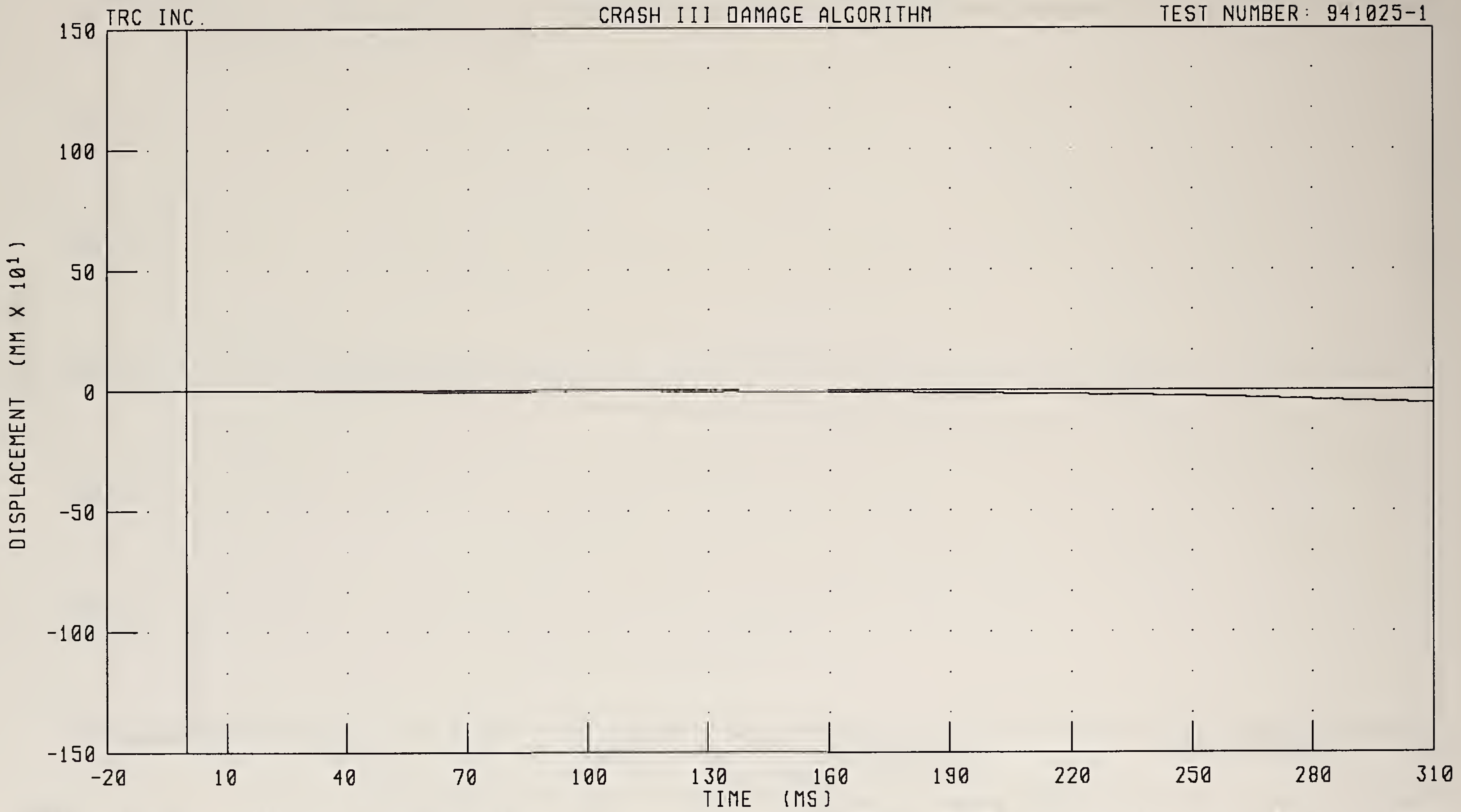
CHANNEL: VCGZG FILTER: CH. CLASS 60 PEAK DATA: 2.06 G @ 46.72 MS; -1.94 G @ 32.72 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG Z-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM
TEST NUMBER: 941025-1



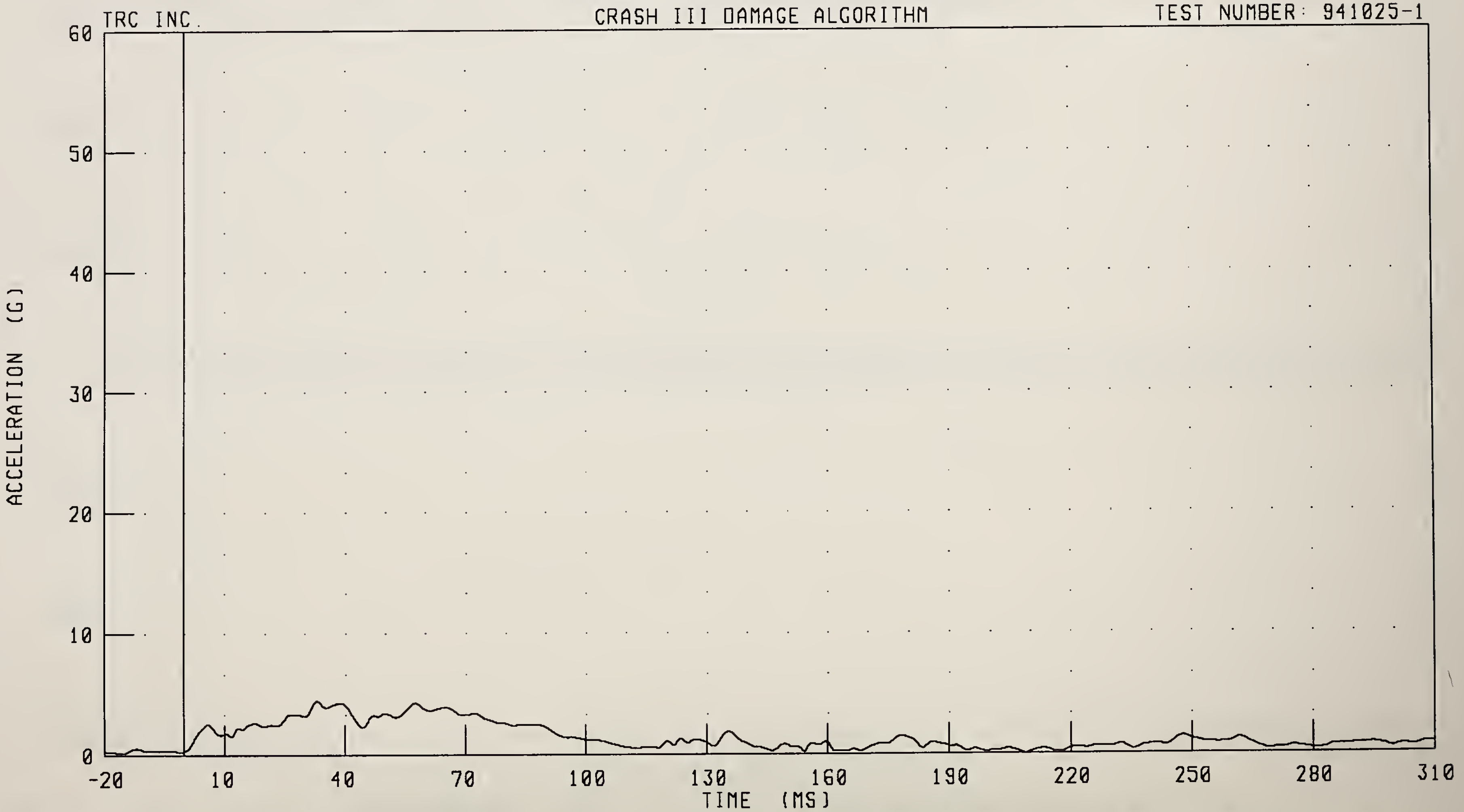
CHANNEL: VCGZV FILTER: CH. CLASS 180 PEAK DATA: 0.27 KM/H @ 124.80 MS; -2.01 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG Z-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGZD FILTER: CH. CLASS 180 PEAK DATA: 0.00 MM @ 0.56 MS; -56.23 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG RESULTANT ACCELERATION
CRASH III DAMAGE ALGORITHM

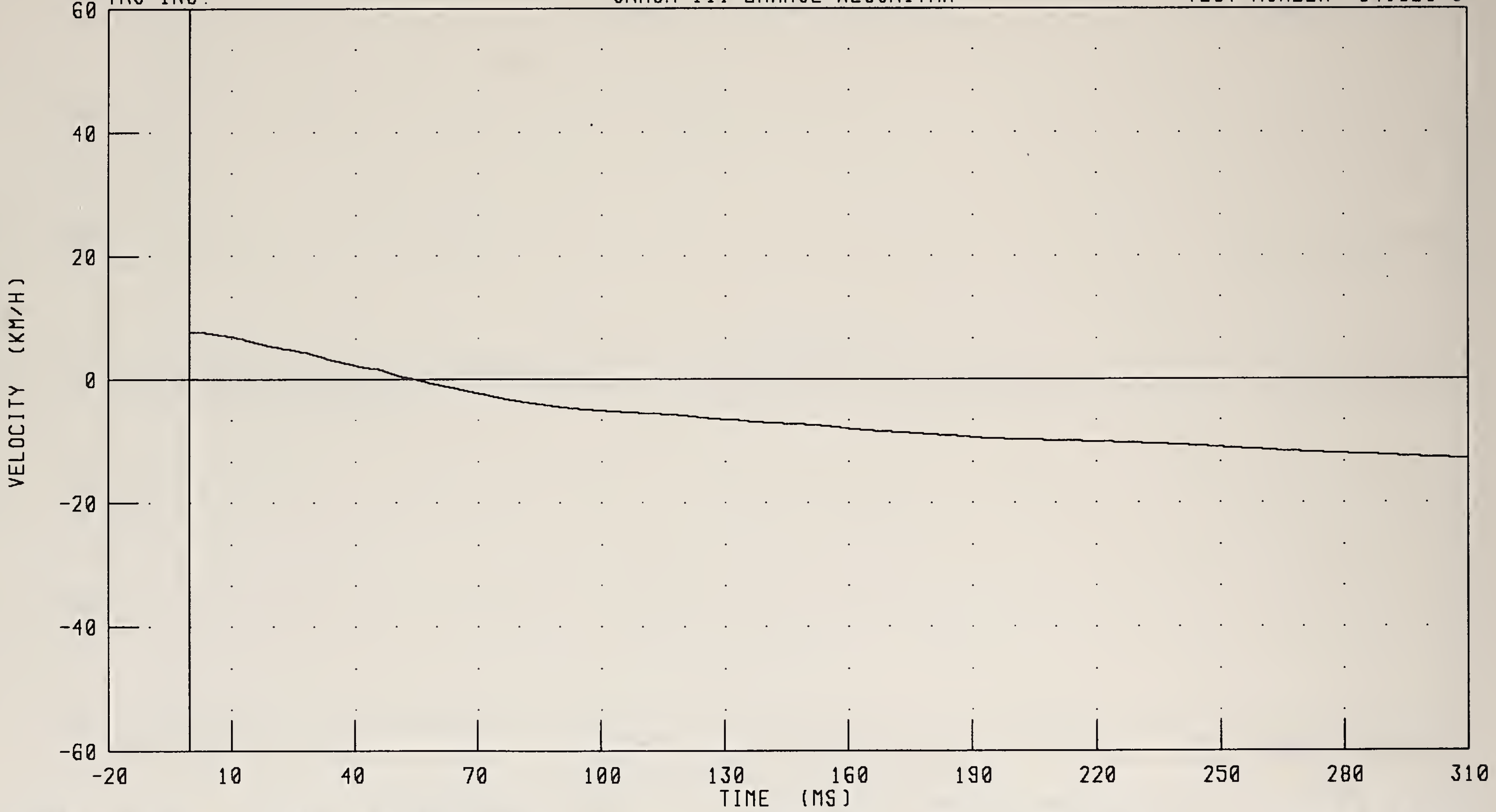


CHANNEL: VCGRG FILTER: CH. CLASS 60 PEAK DATA: 4.49 G @ 33.04 MS; 0.03 G @ 208.88 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG RESULTANT VELOCITY
CRASH III DAMAGE ALGORITHM

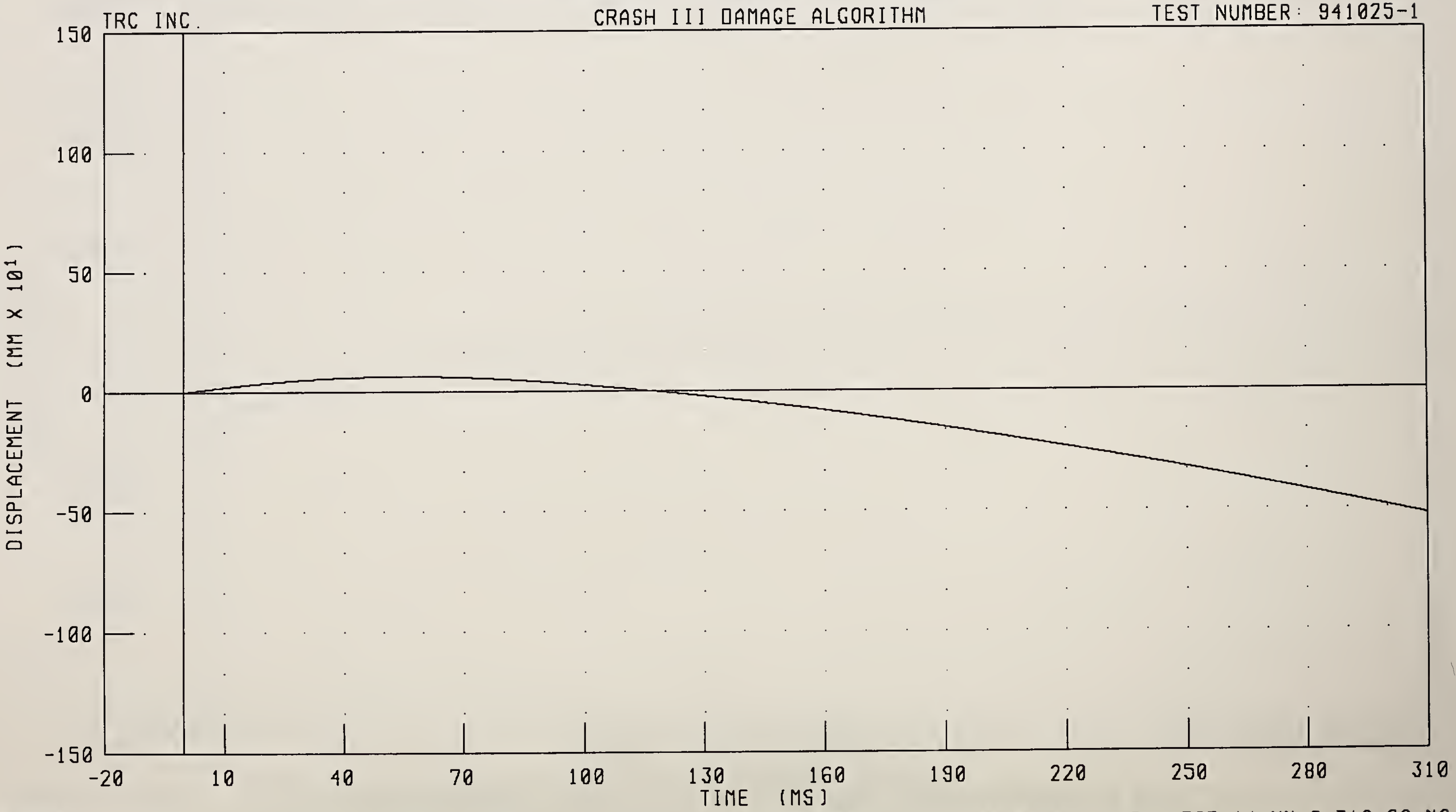
TRC INC.

TEST NUMBER: 941025-1



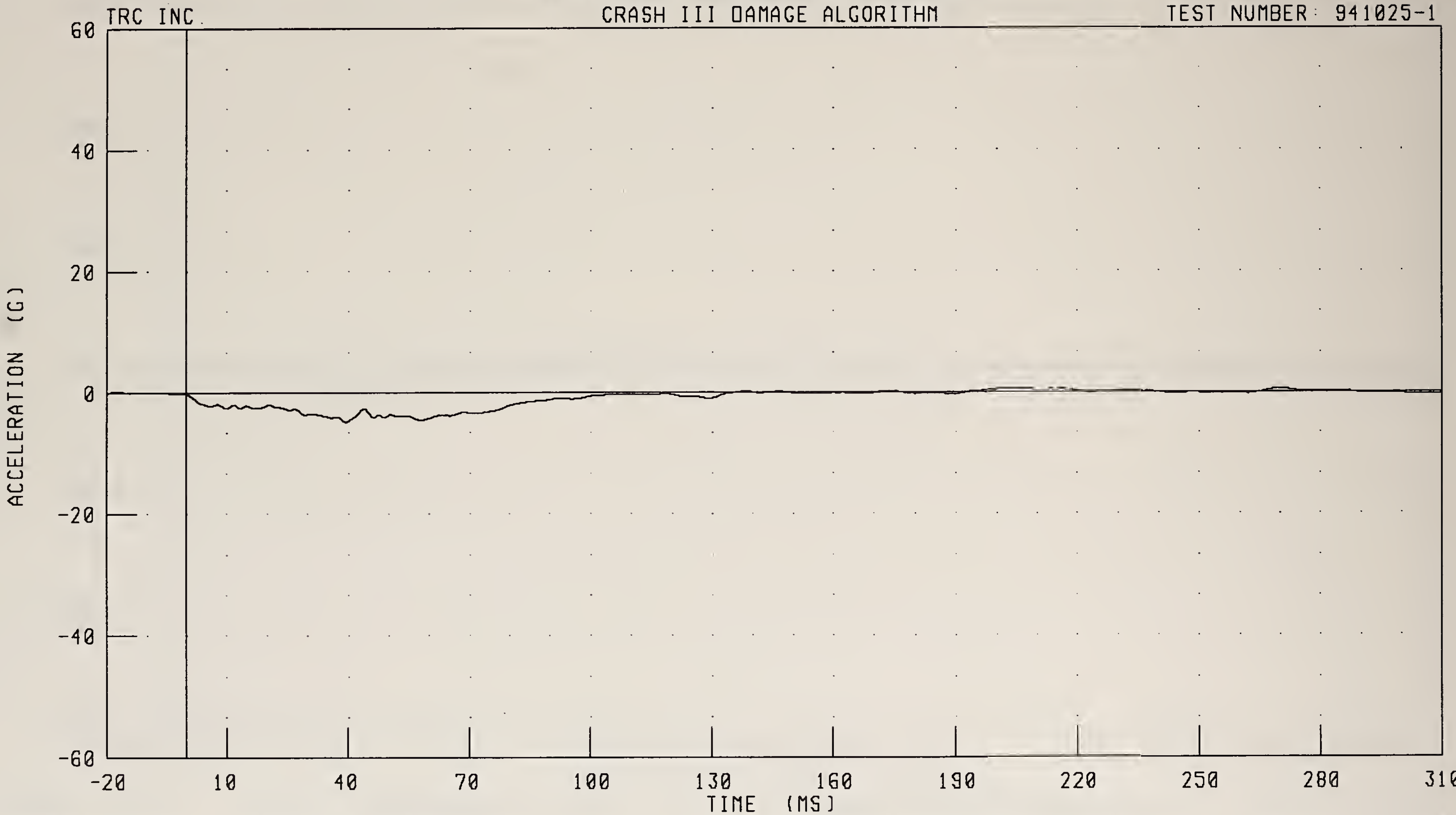
CHANNEL: VCGRV FILTER: CH. CLASS 180 PEAK DATA: 7.70 KM/H @ 0.00 MS; -12.93 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
VEHICLE CG RESULTANT DISPLACEMENT
CRASH III DAMAGE ALGORITHM



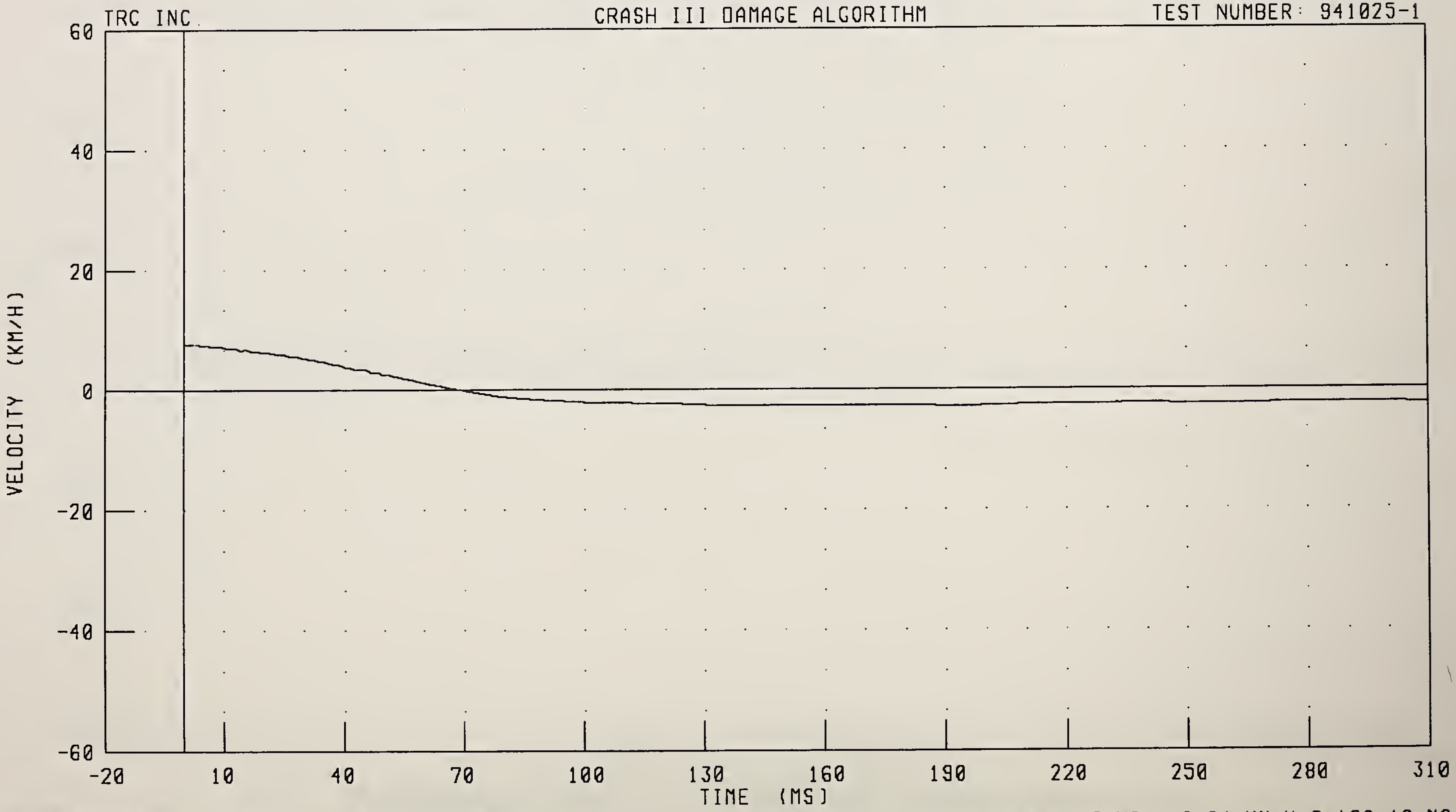
CHANNEL: VCGRD FILTER: CH. CLASS 180 PEAK DATA: 63.84 MM @ 54.72 MS; -525.14 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT FRONT SILL X-AXIS ACCELERATION



CHANNEL: LFSXG FILTER: CH. CLASS 60 PEAK DATA: 0.58 G @ 270.24 MS; -4.84 G @ 39.36 MS

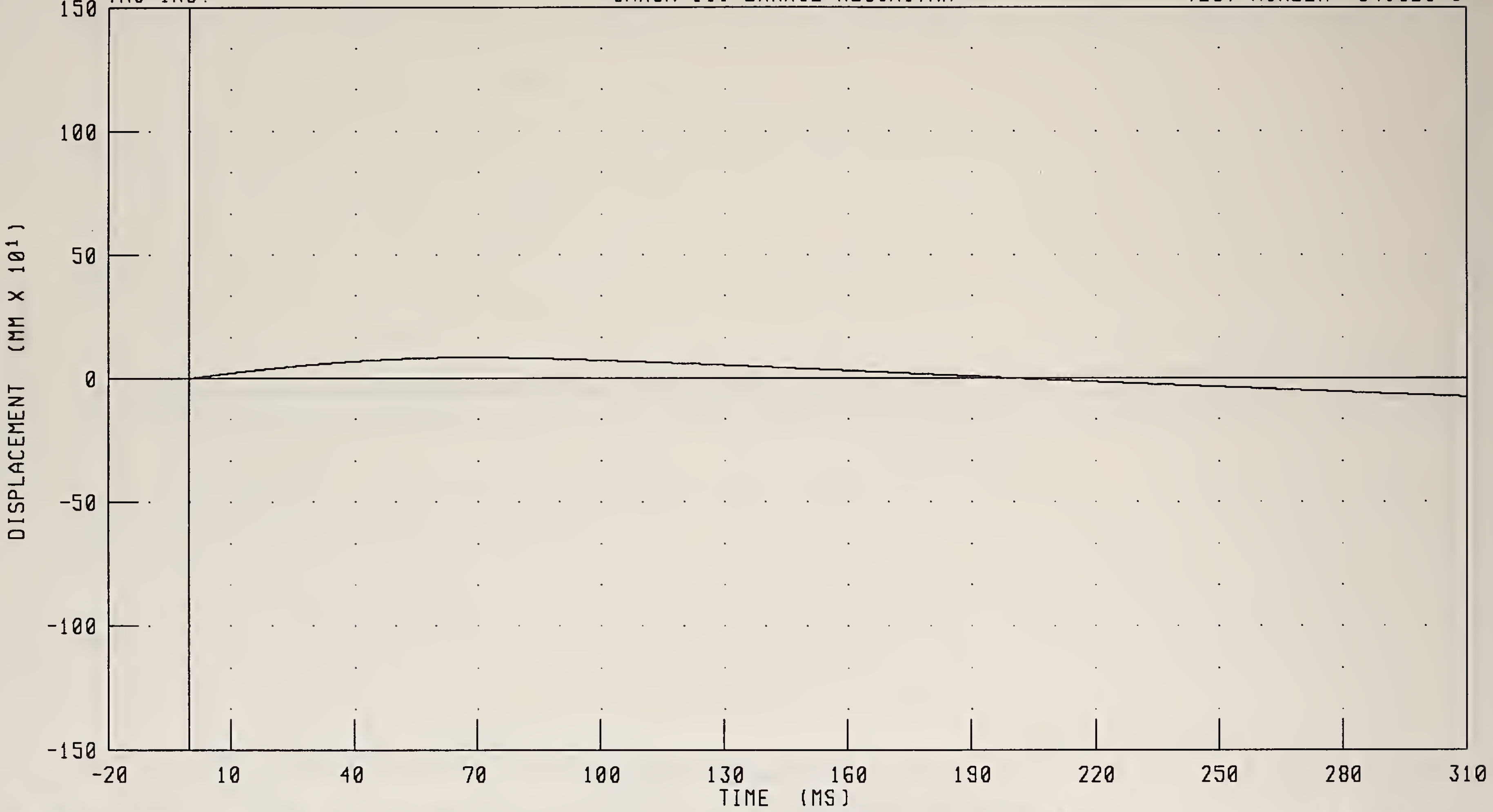
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: LFSXV FILTER: CH. CLASS 180 PEAK DATA: 7.70 KM/H @ 0.00 MS; -2.84 KM/H @ 192.16 MS

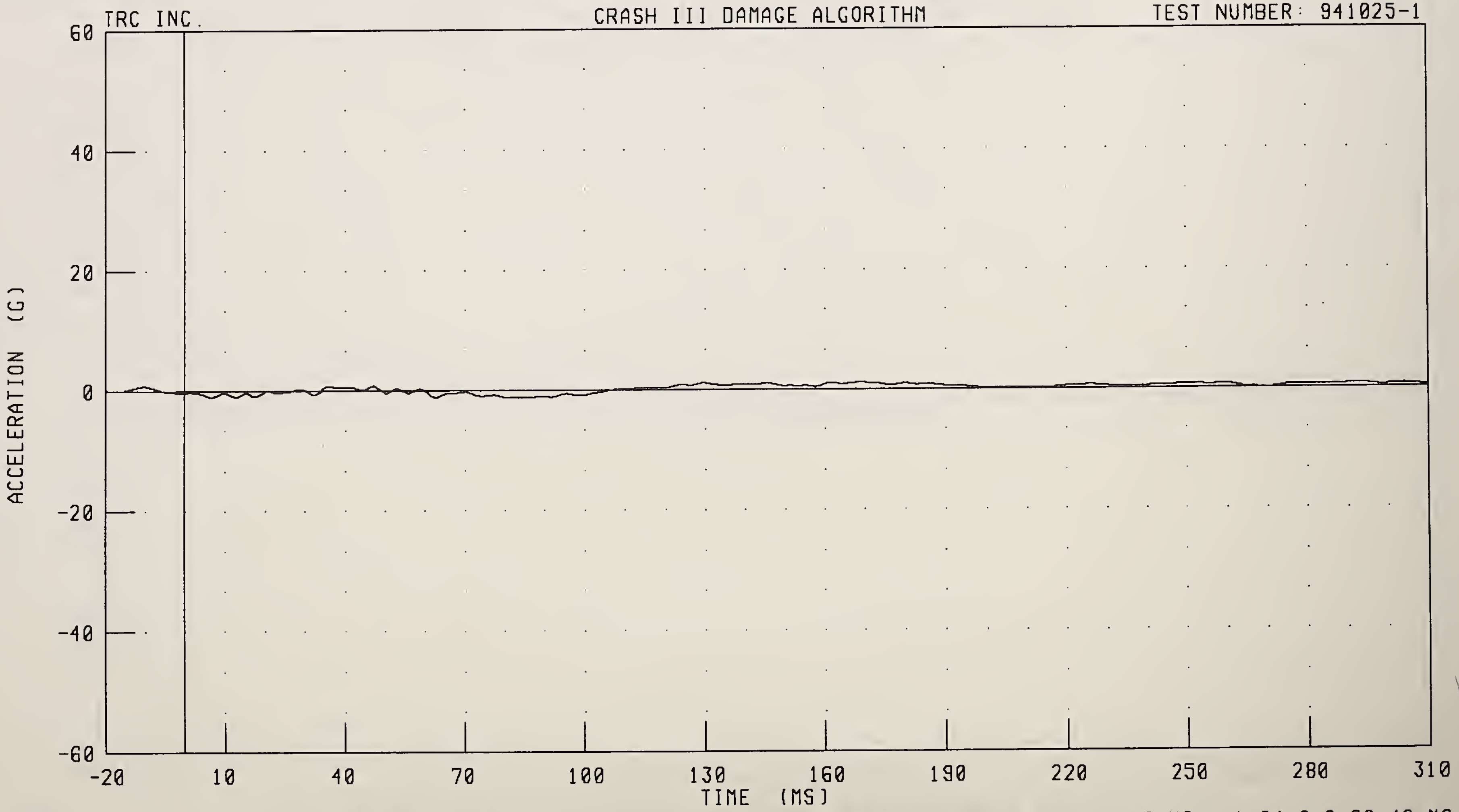
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC. TEST NUMBER: 941025-1



CHANNEL: LFSXD FILTER: CH. CLASS 180 PEAK DATA: 84.03 MM @ 68.96 MS; -74.96 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT FRONT SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

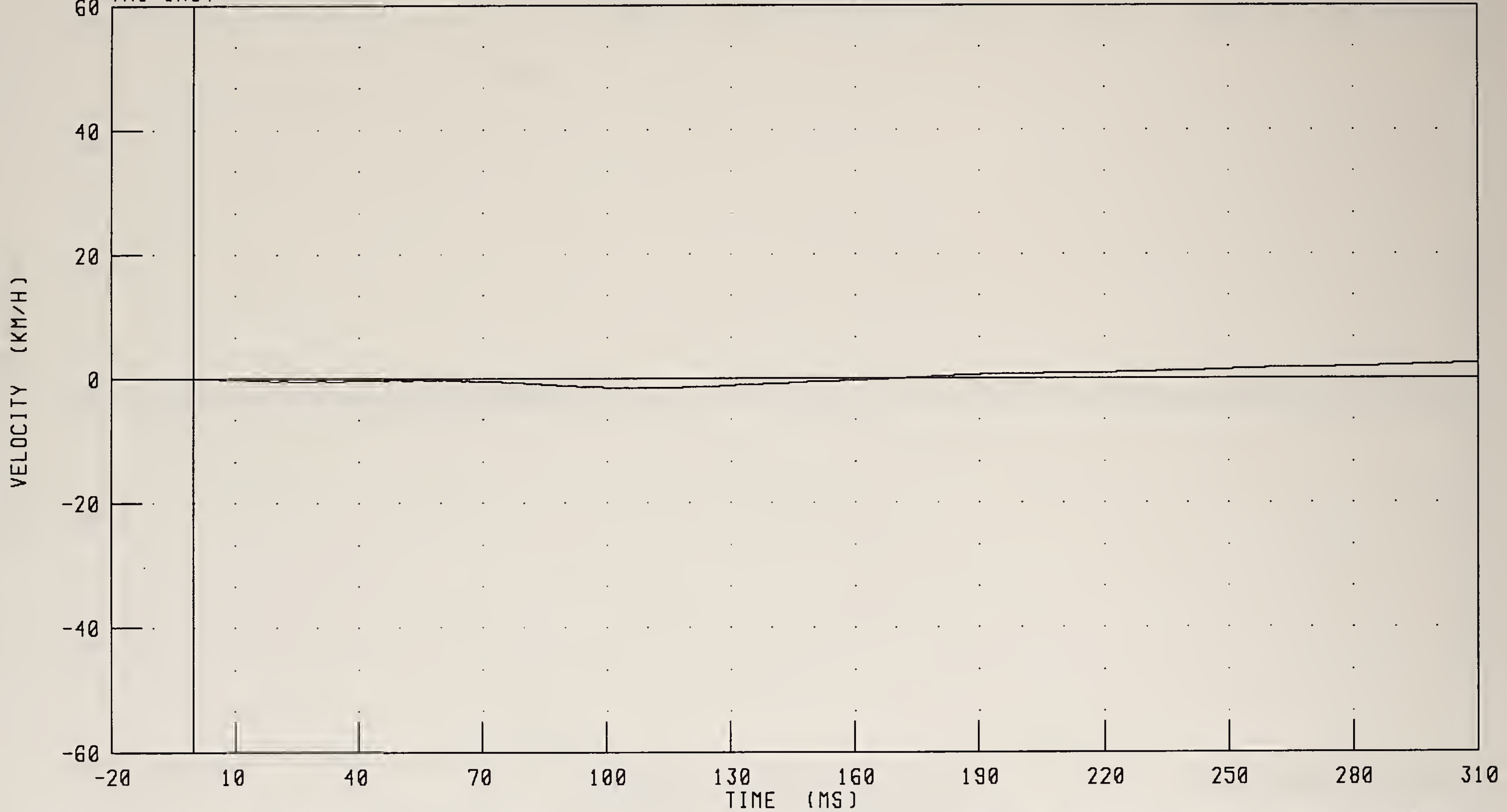


CHANNEL: LFSYG FILTER: CH. CLASS 60 PEAK DATA: 1.15 G @ 129.68 MS; -1.24 G @ 82.40 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

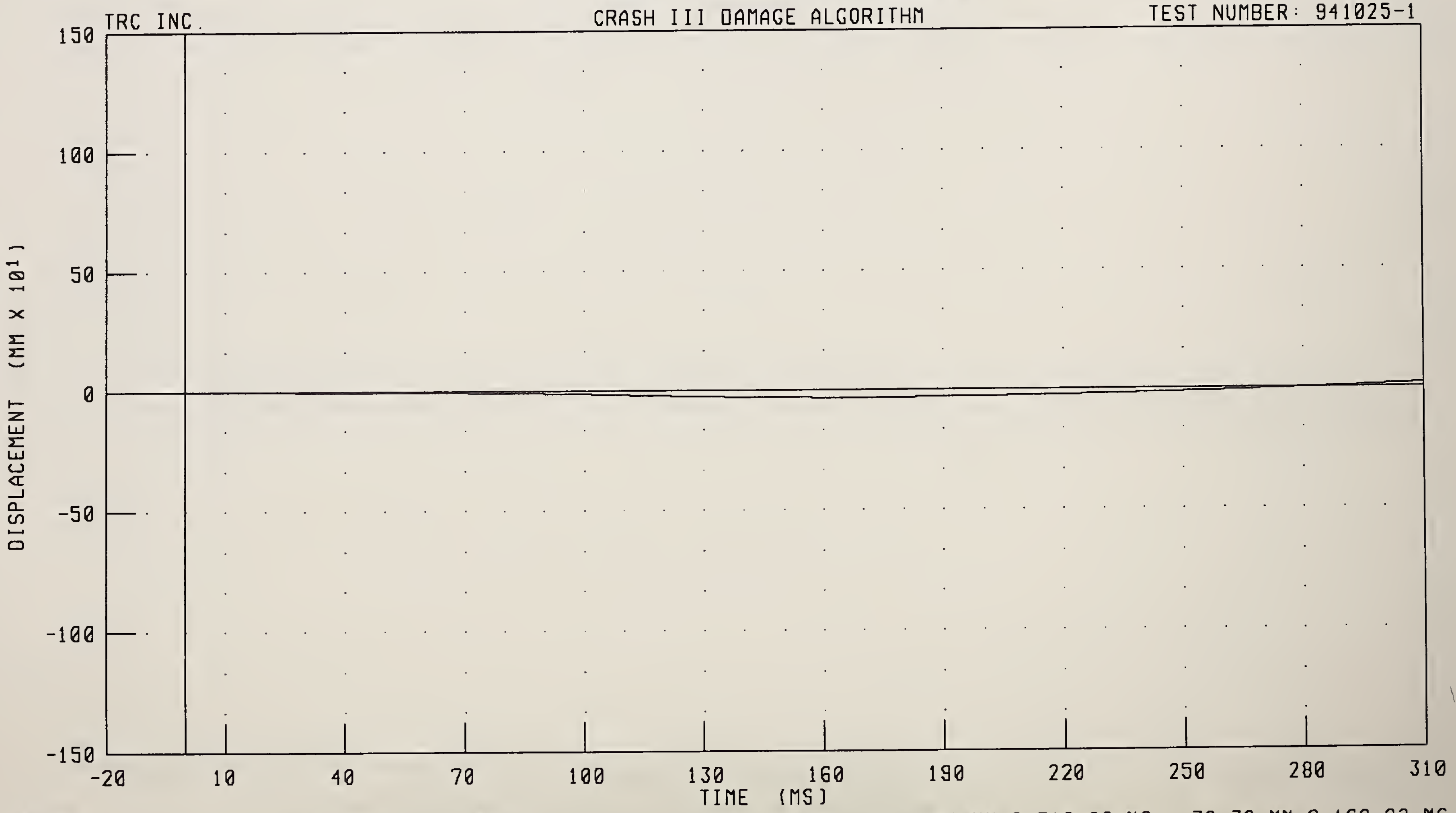
TEST NUMBER: 941025-1



CHANNEL: LFSYV FILTER: CH. CLASS 180

PEAK DATA: 2.39 KM/H @ 310.00 MS, -1.54 KM/H @ 105.92 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT FRONT SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

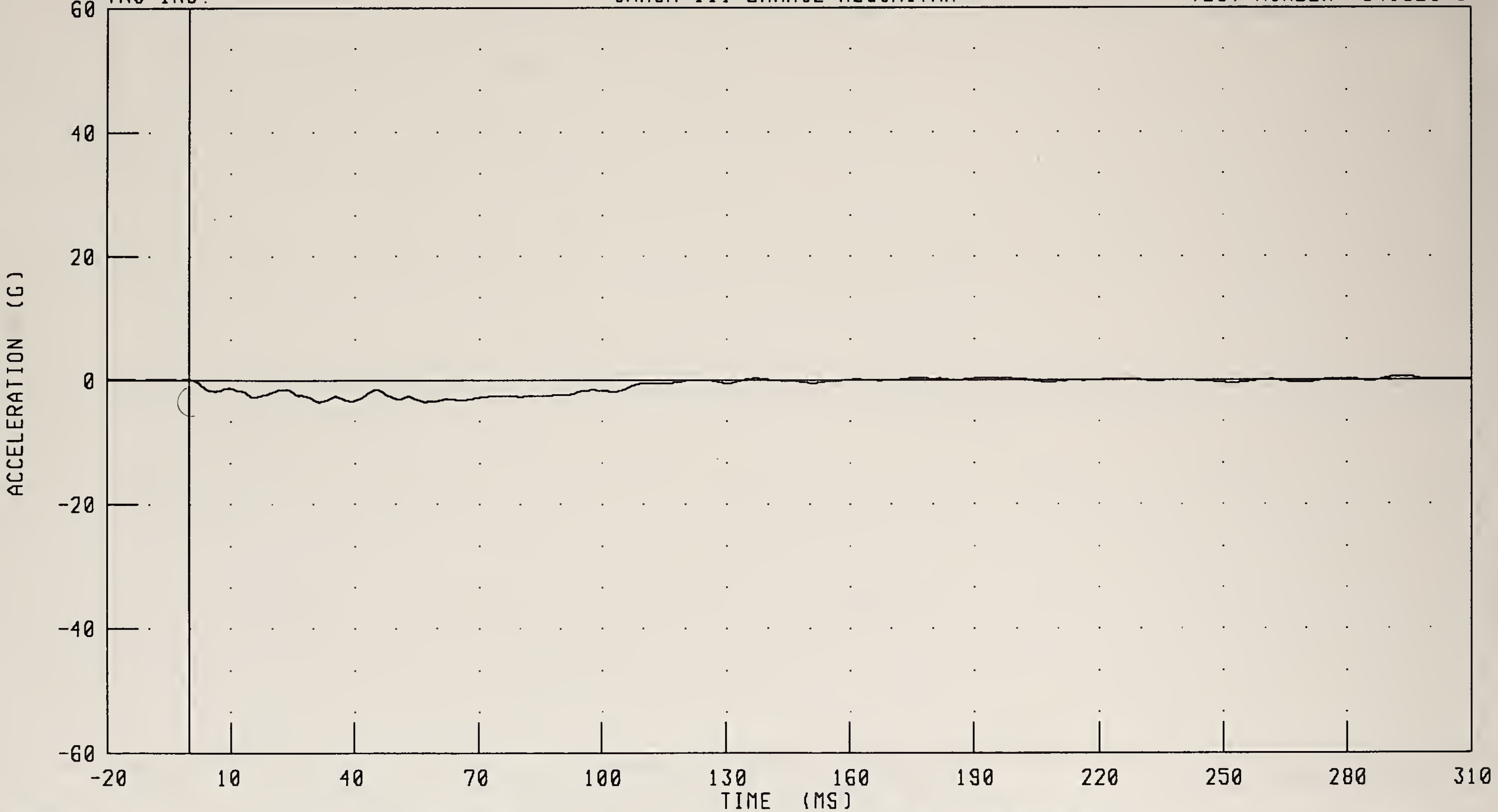


CHANNEL: LFSYD FILTER: CH. CLASS 180 PEAK DATA: 17.04 MM @ 310.00 MS; -32.30 MM @ 169.92 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

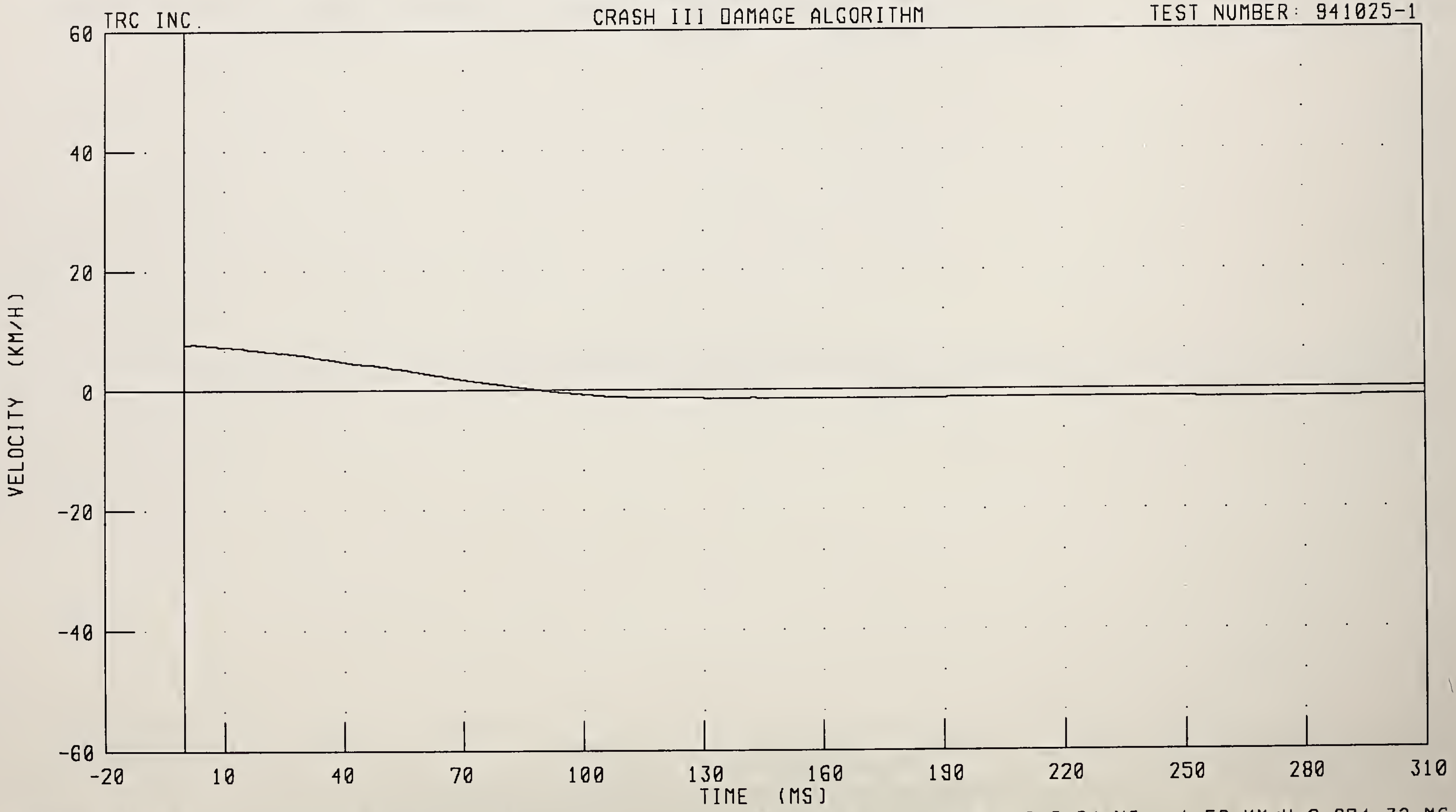
TRC INC.

TEST NUMBER: 941025-1



CHANNEL: RFSXG FILTER: CH. CLASS 60 PEAK DATA: 0.57 G @ 293.52 MS; -3.49 G @ 57.12 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

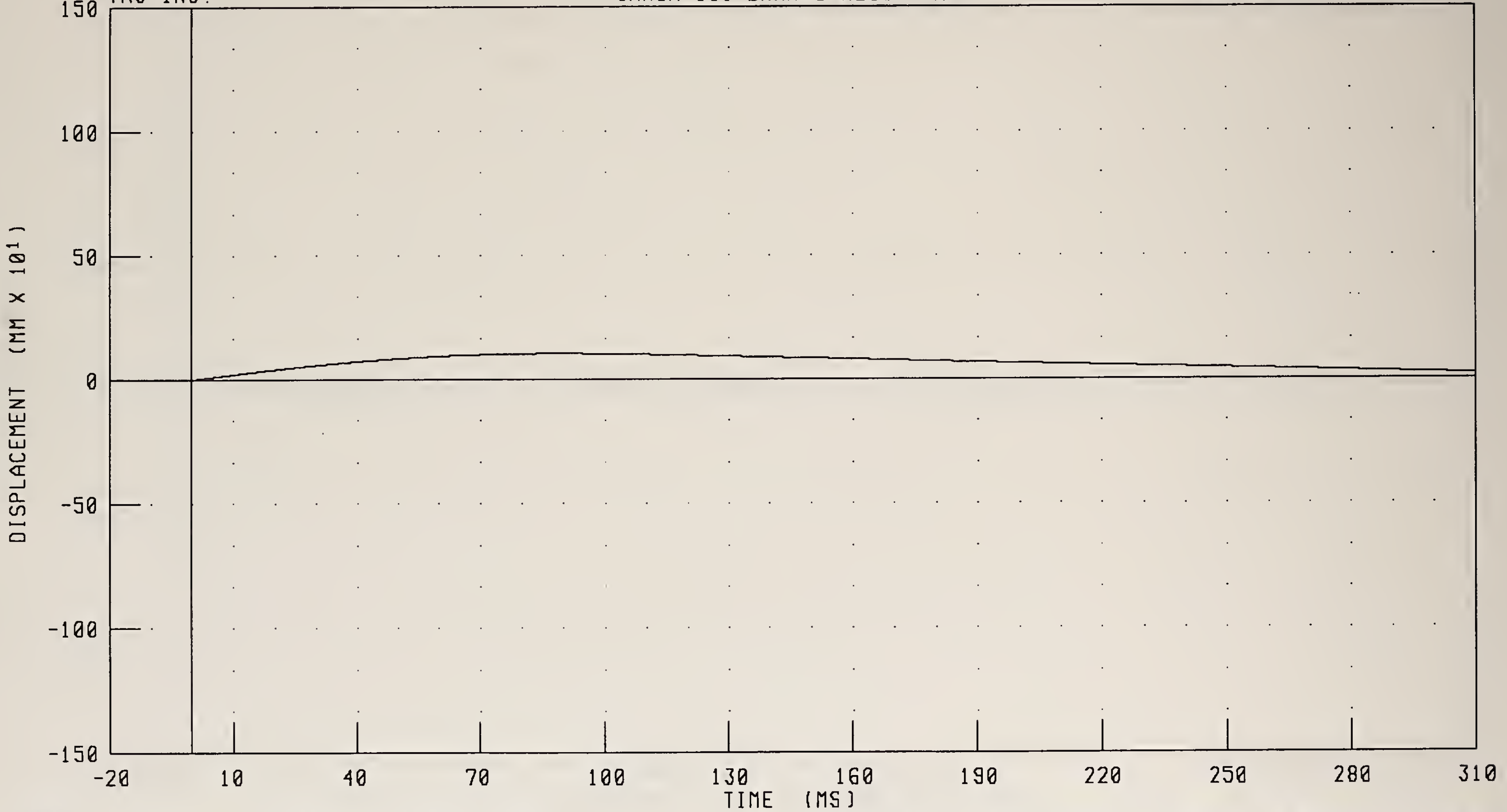


CHANNEL: RFSXV FILTER: CH. CLASS 180 PEAK DATA: 7.72 KM/H @ 2.24 MS; -1.56 KM/H @ 274.32 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

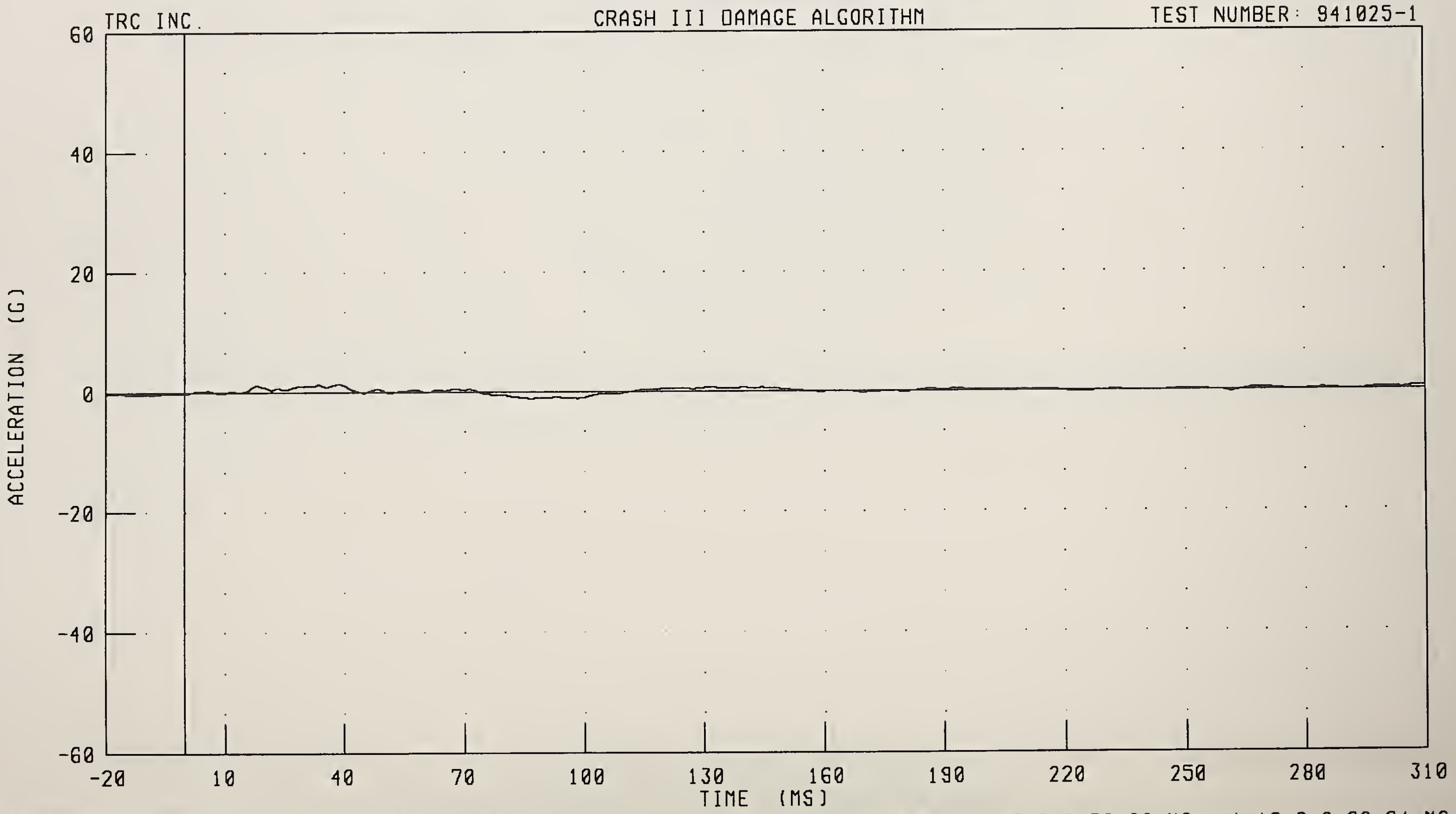
TRC INC.

TEST NUMBER: 941025-1



CHANNEL: RFSXD FILTER: CH. CLASS 180 PEAK DATA: 104.36 MM @ 88.96 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT FRONT SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

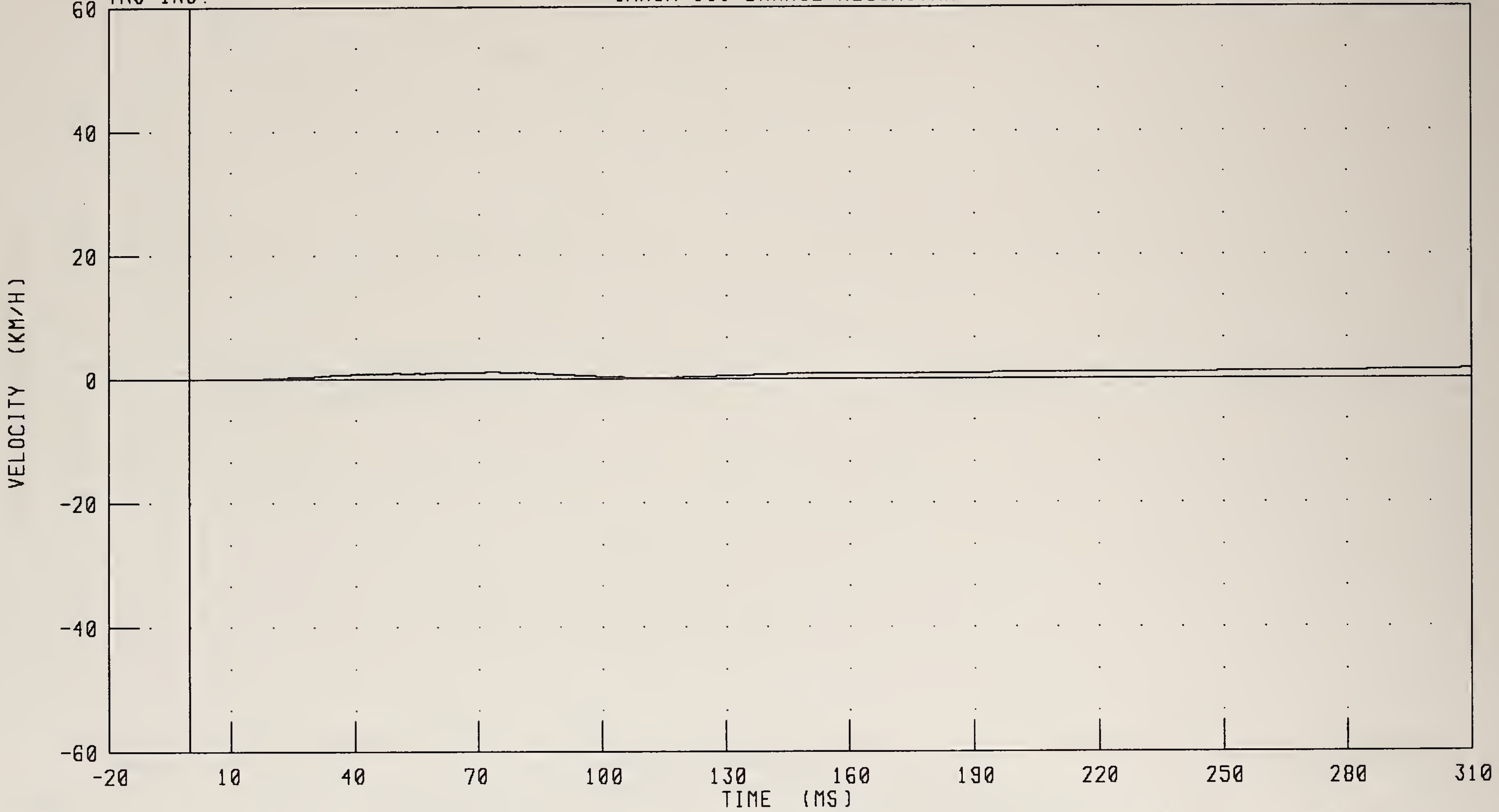


CHANNEL: RFSYG FILTER: CH. CLASS 60 PEAK DATA: 1.38 G @ 38.88 MS; -1.12 G @ 86.64 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

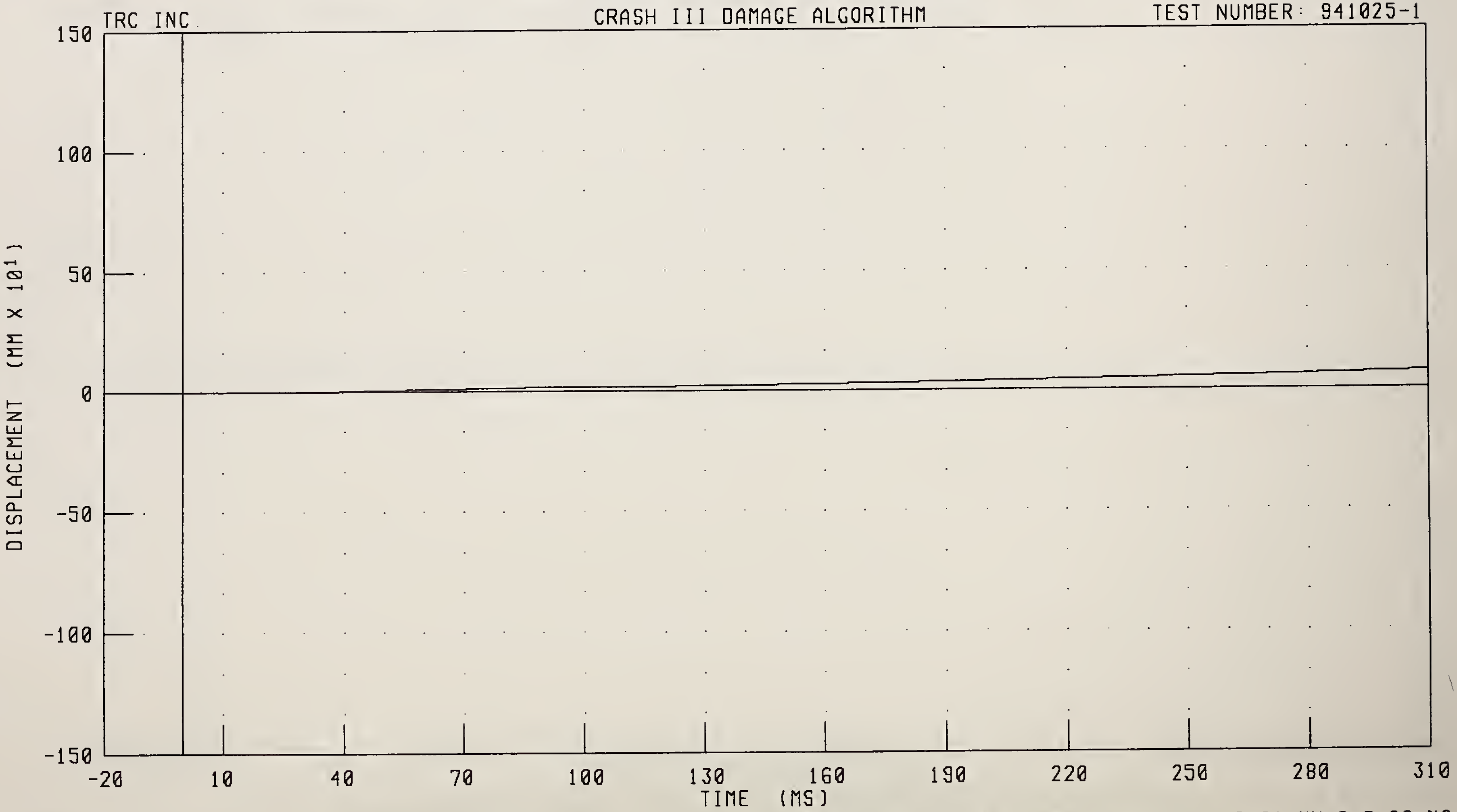
TRC INC.

TEST NUMBER: 941025-1



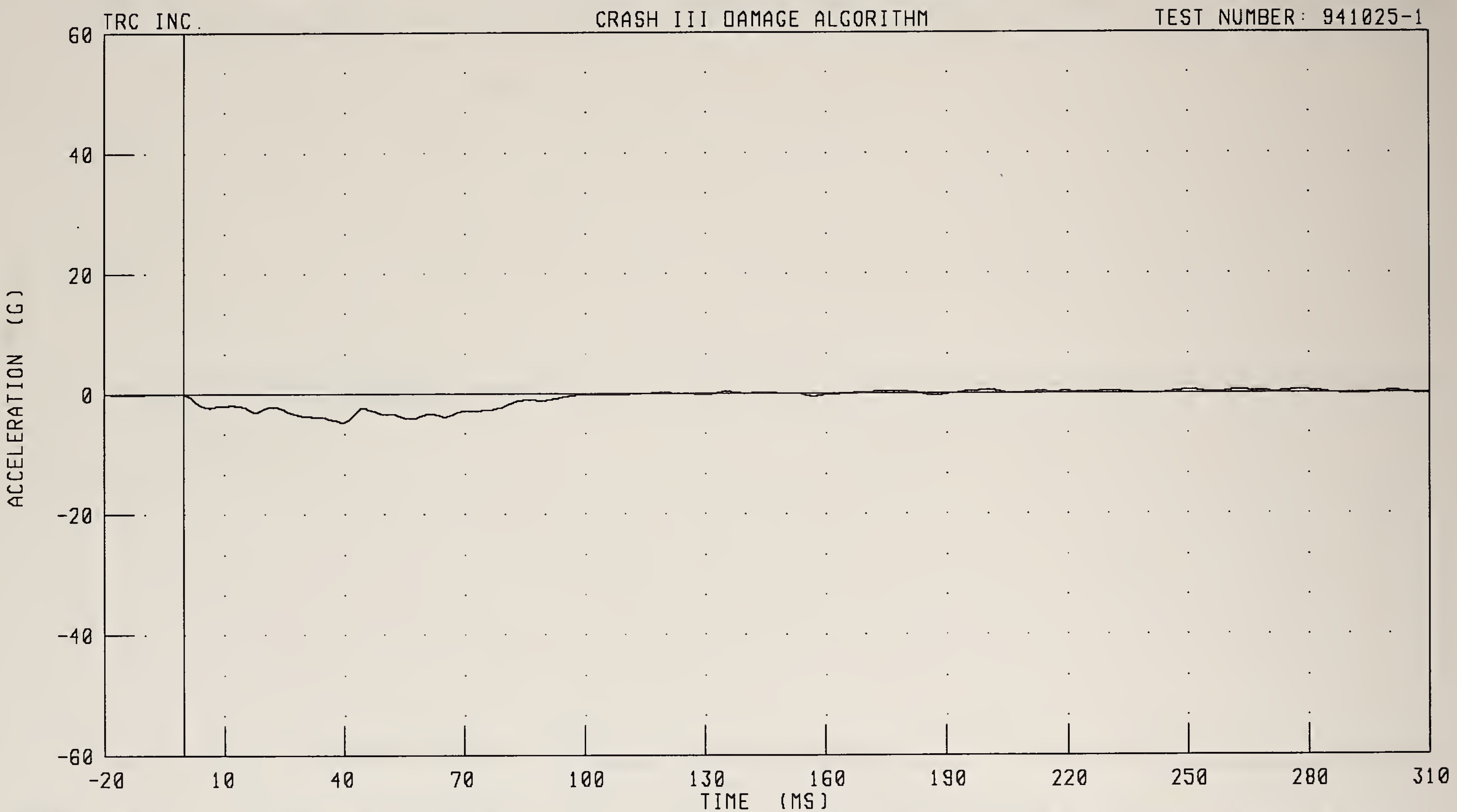
CHANNEL: RFSYV FILTER: CH. CLASS 180 PEAK DATA: 1.50 KM/H @ 310.00 MS; -0.02 KM/H @ 10.72 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT FRONT SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



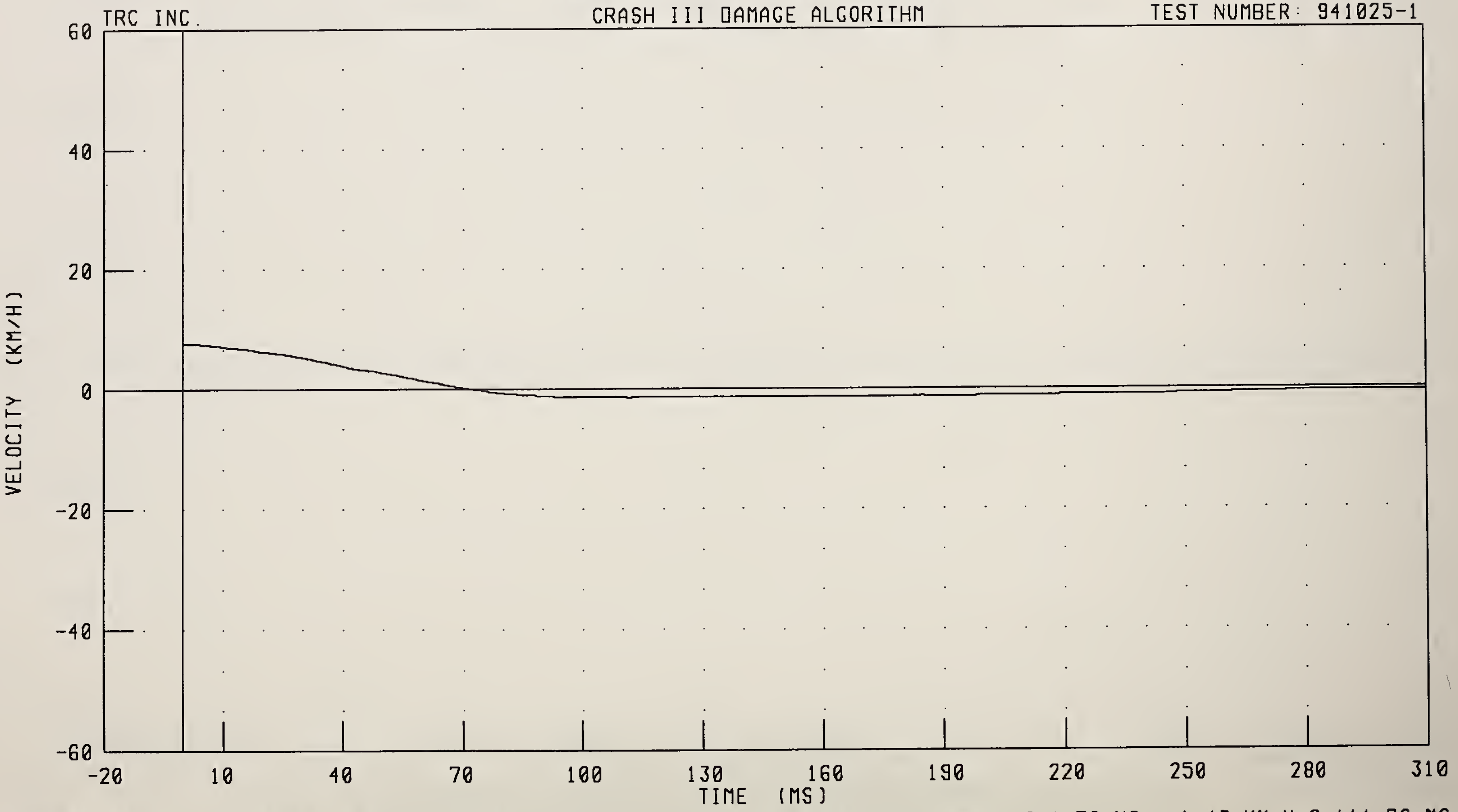
CHANNEL: RFSYD FILTER: CH. CLASS 180 PEAK DATA: 72.01 MM @ 310.00 MS; -0.01 MM @ 3.28 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



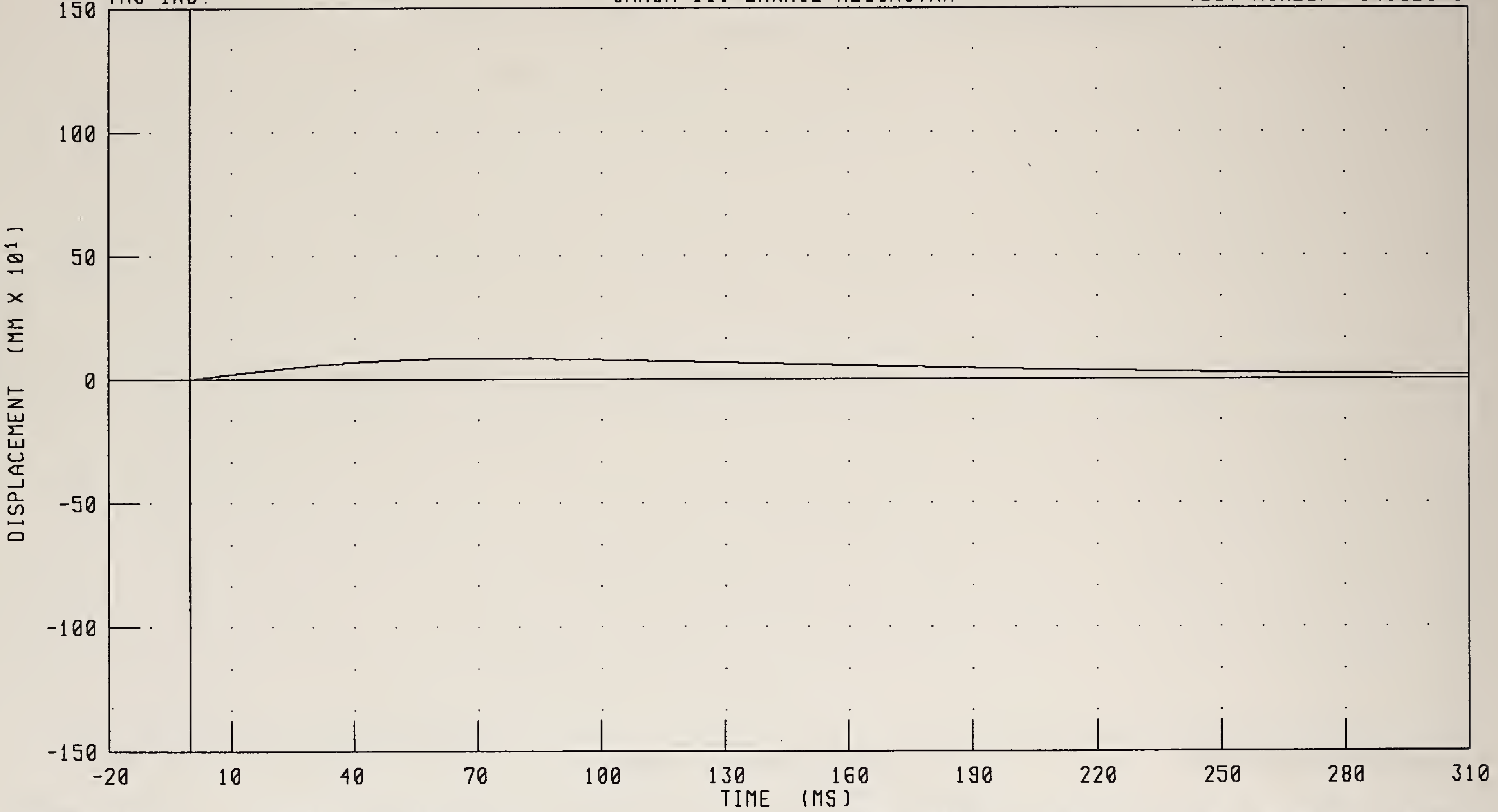
CHANNEL: LRSXG FILTER: CH. CLASS 60 PEAK DATA: 0.53 G @ 262.56 MS; -4.70 G @ 39.60 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



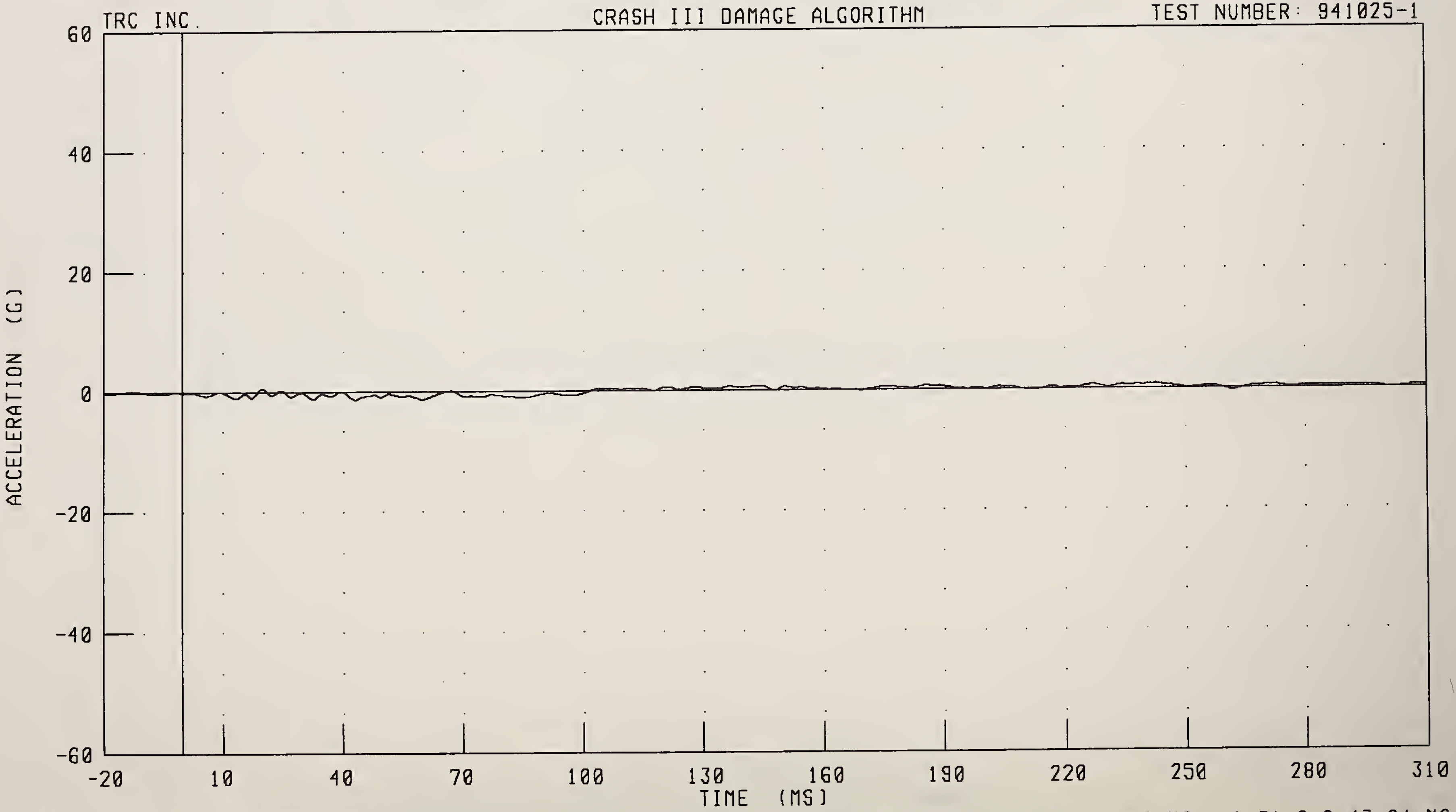
CHANNEL: LRSXV FILTER: CH. CLASS 180 PEAK DATA: 7.70 KM/H @ 1.76 MS; -1.43 KM/H @ 111.76 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT REAR SILL X-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-1



CHANNEL: LRSXD FILTER: CH. CLASS 180 PEAK DATA: 85.92 MM @ 72.08 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT REAR SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

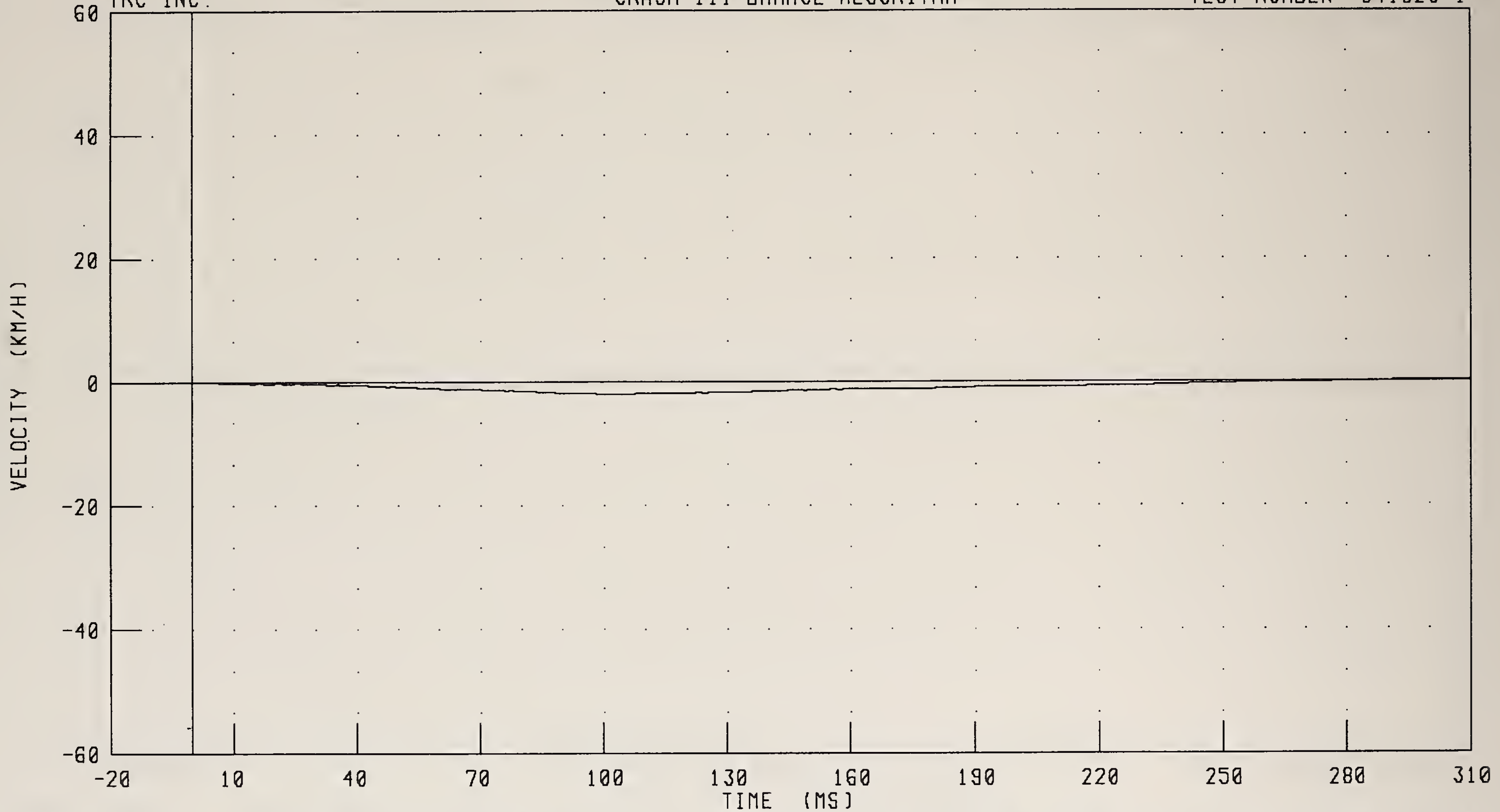


CHANNEL: LRSYG FILTER: CH. CLASS 60 PEAK DATA: 0.78 G @ 242.56 MS; -1.31 G @ 43.04 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT REAR SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

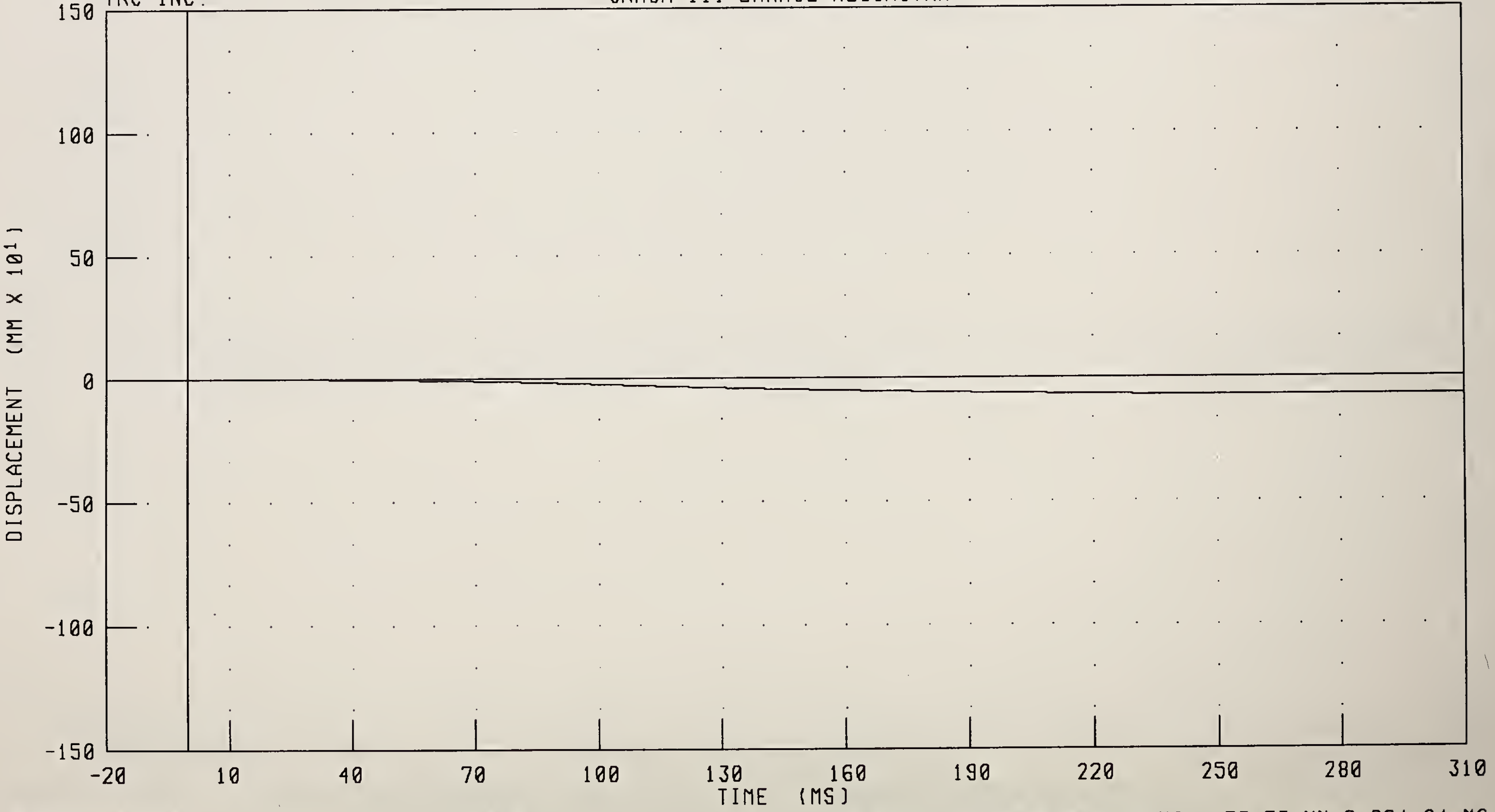
TEST NUMBER: 941025-1



CHANNEL: LRSYV FILTER: CH. CLASS 180

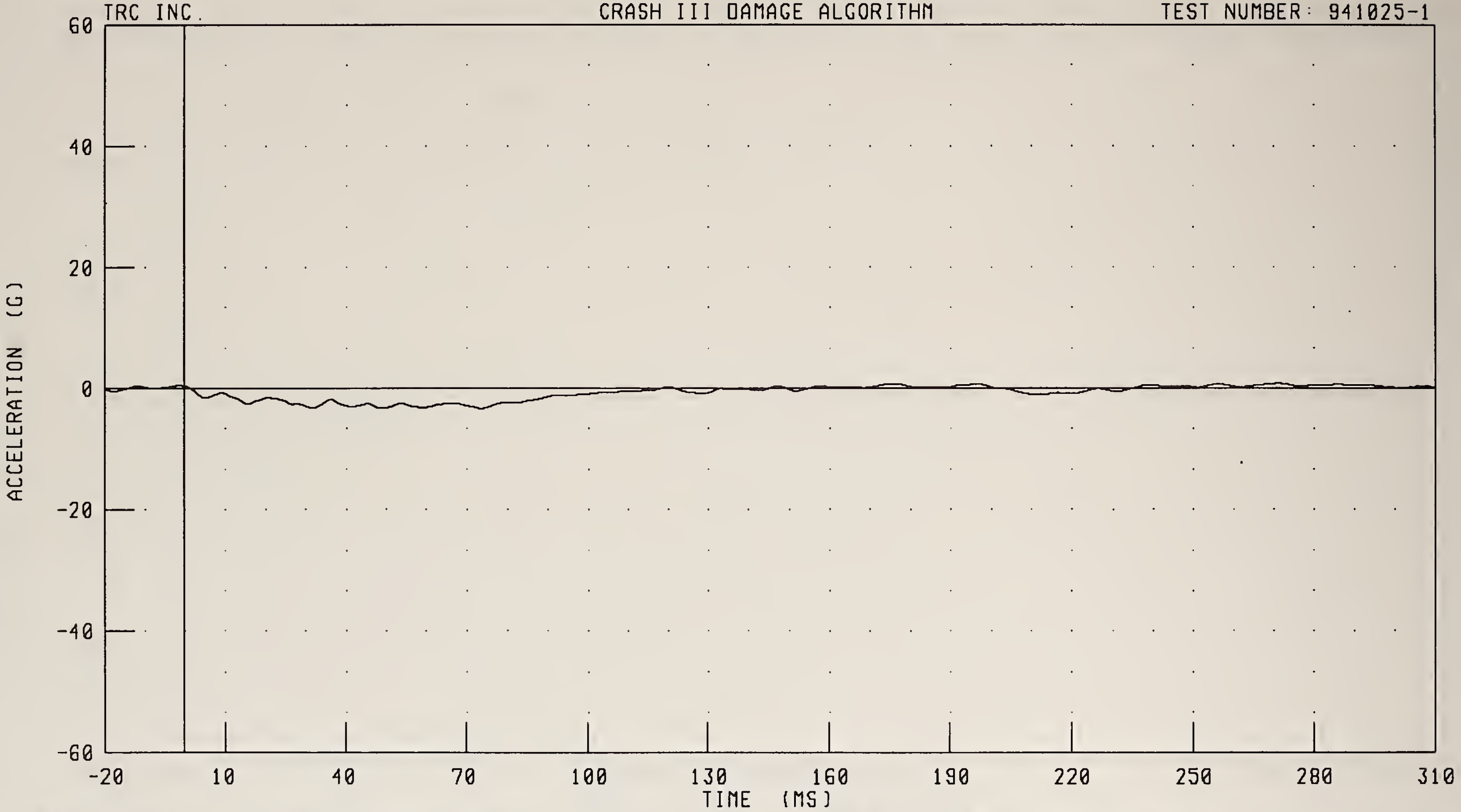
PEAK DATA: 0.25 KM/H @ 308.72 MS; -2.01 KM/H @ 101.52 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
LEFT REAR SILL Y-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-1



CHANNEL: LRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.00 MM @ 0.00 MS; -73.53 MM @ 284.24 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

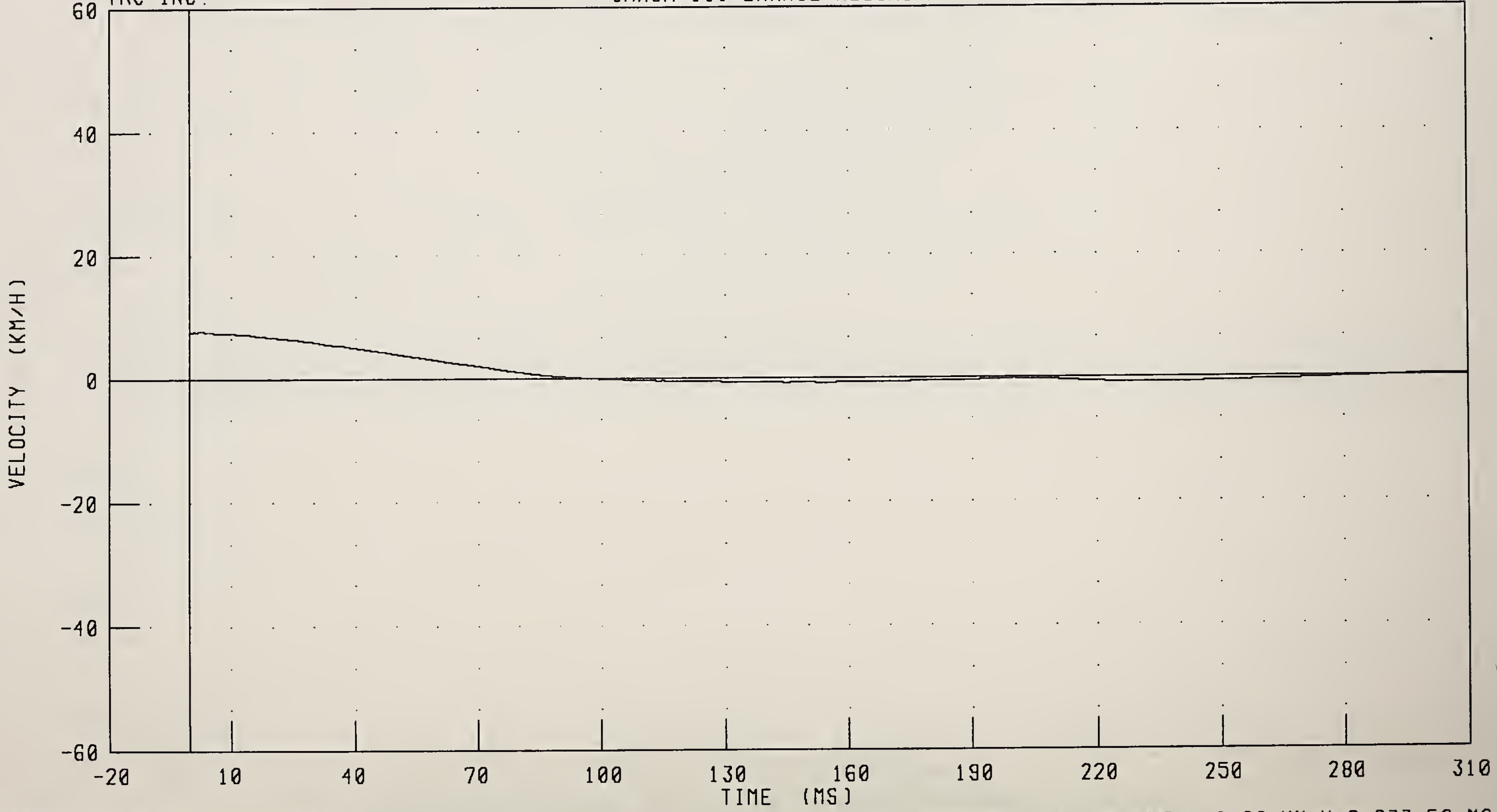


CHANNEL: RRSXG FILTER: CH. CLASS 60 PEAK DATA: 0.79 G @ 271.20 MS; -3.33 G @ 73.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-1



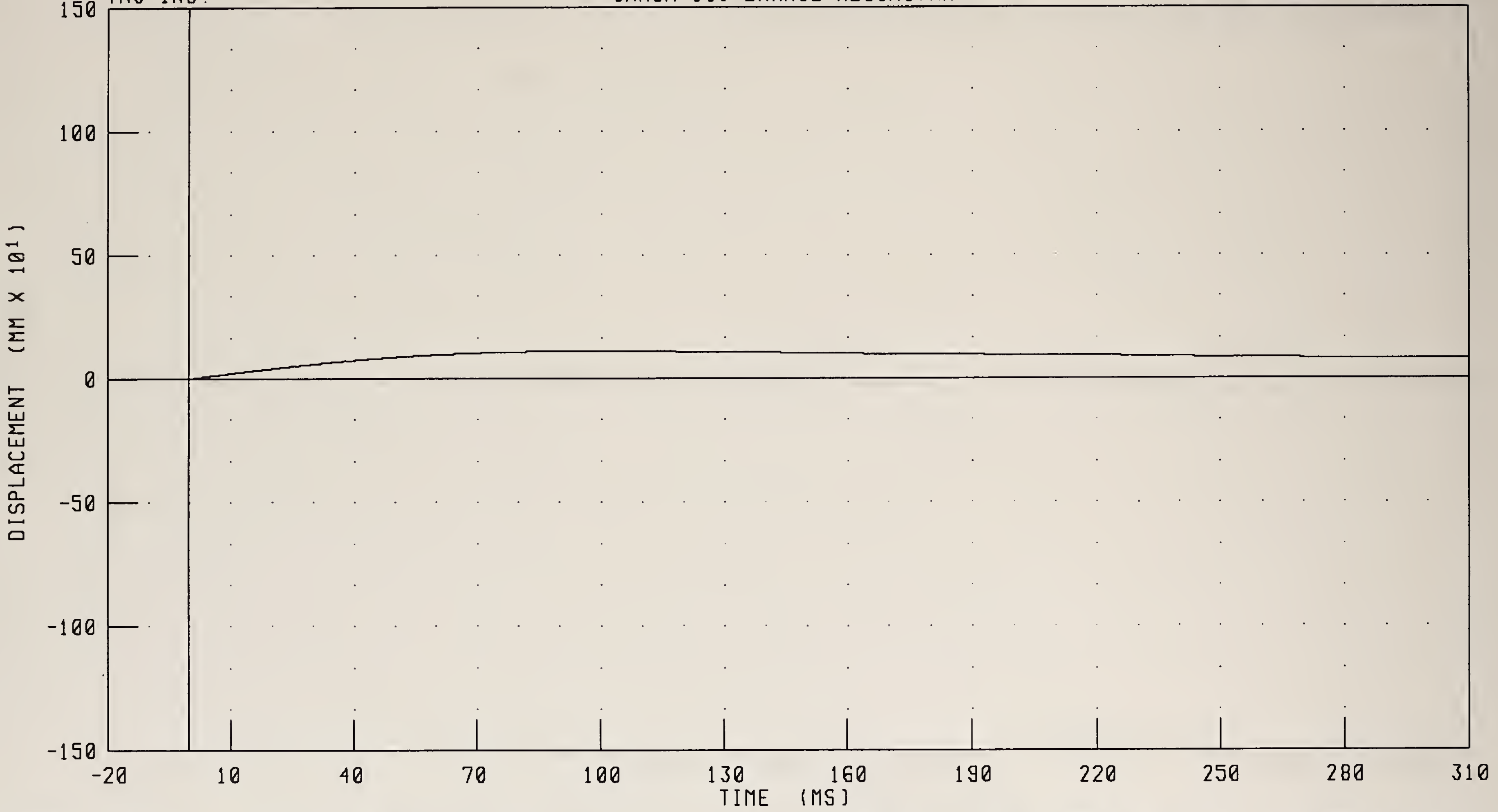
CHANNEL: RRSXV FILTER: CH. CLASS 180

PEAK DATA: 7.73 KM/H @ 2.80 MS; -0.90 KM/H @ 233.52 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-1

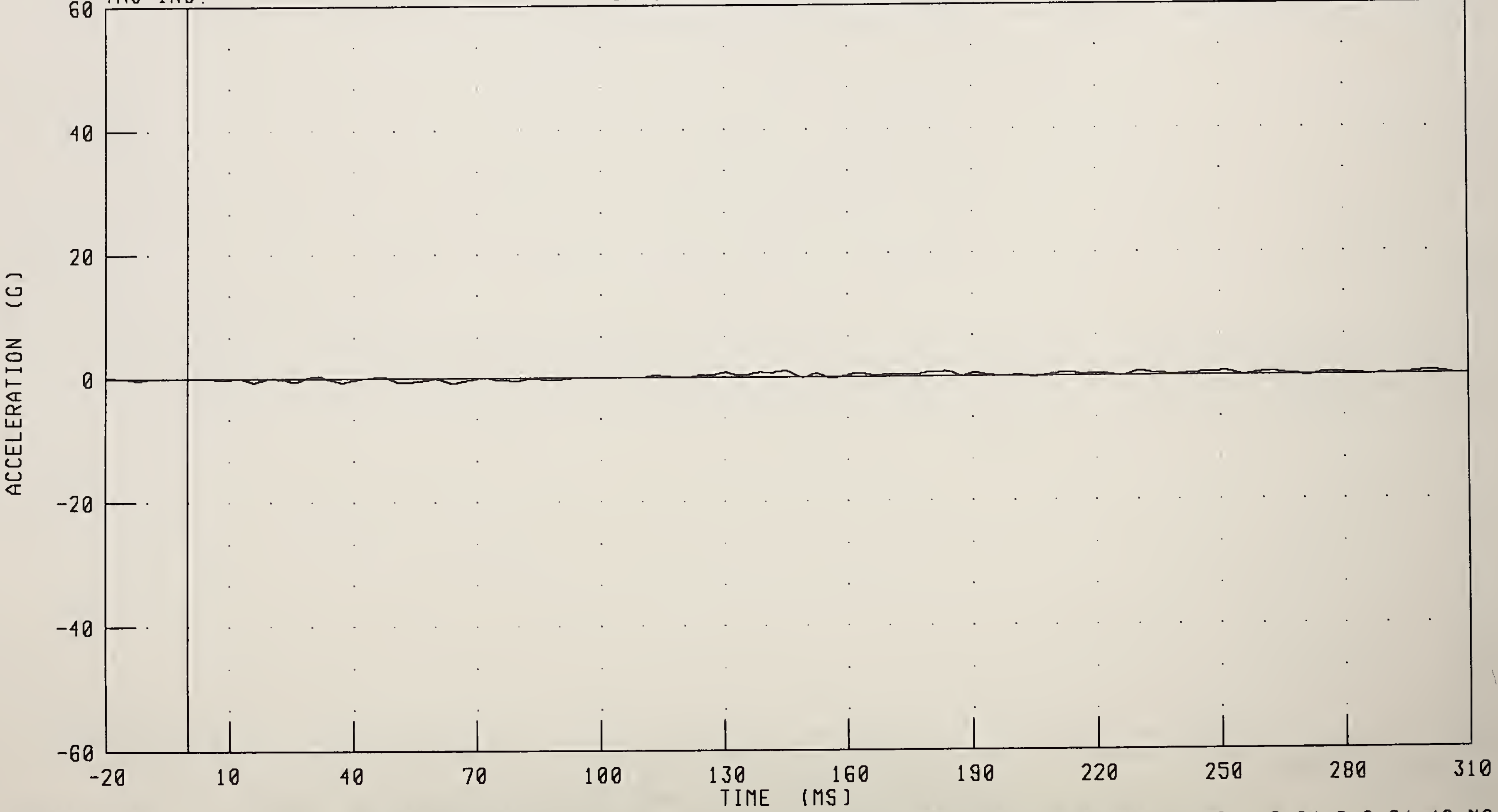


CHANNEL: RRSXD FILTER: CH. CLASS 180 PEAK DATA: 109.77 MM @ 97.60 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT REAR SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

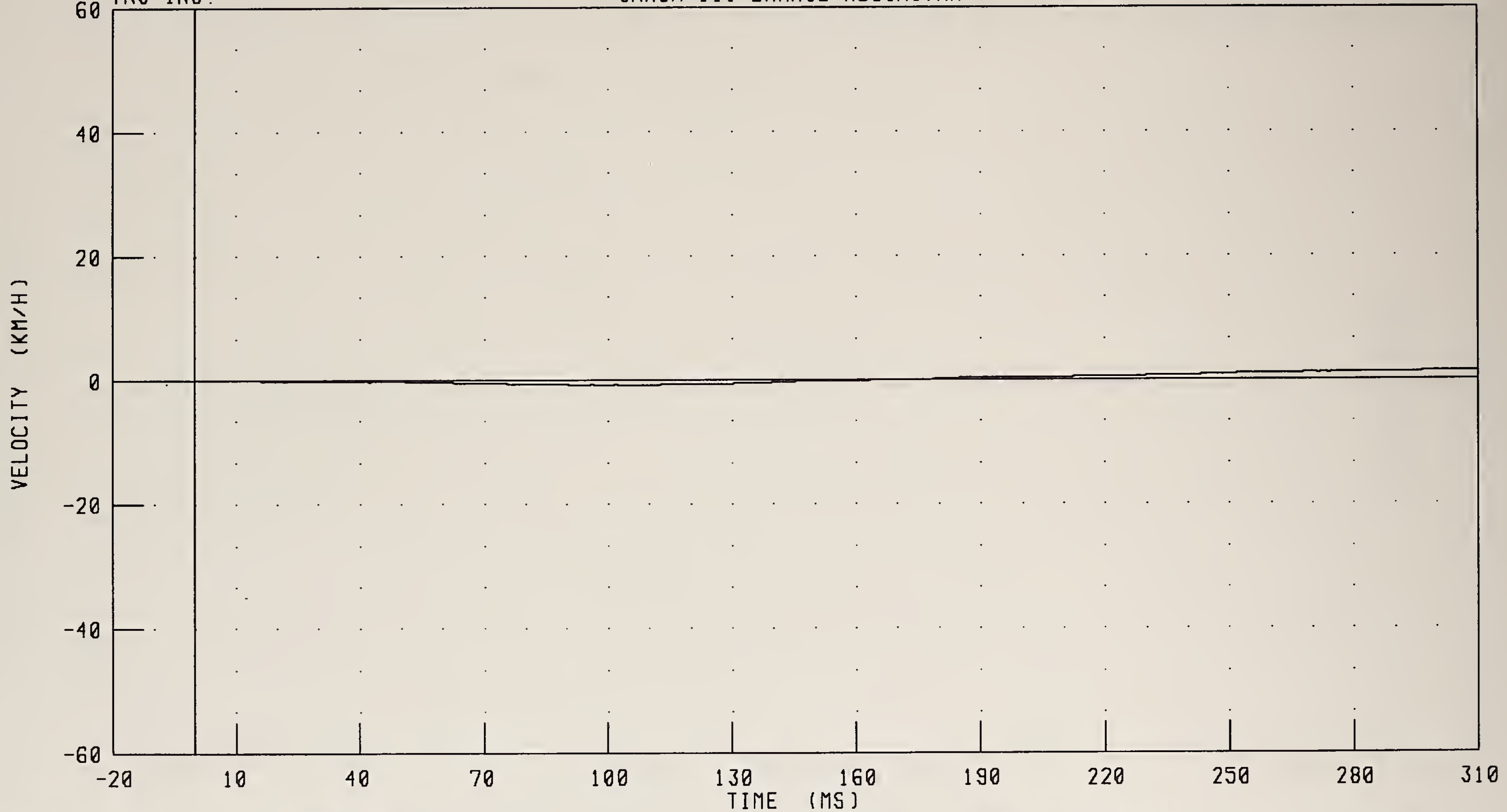
TRC INC.

TEST NUMBER: 941025-1



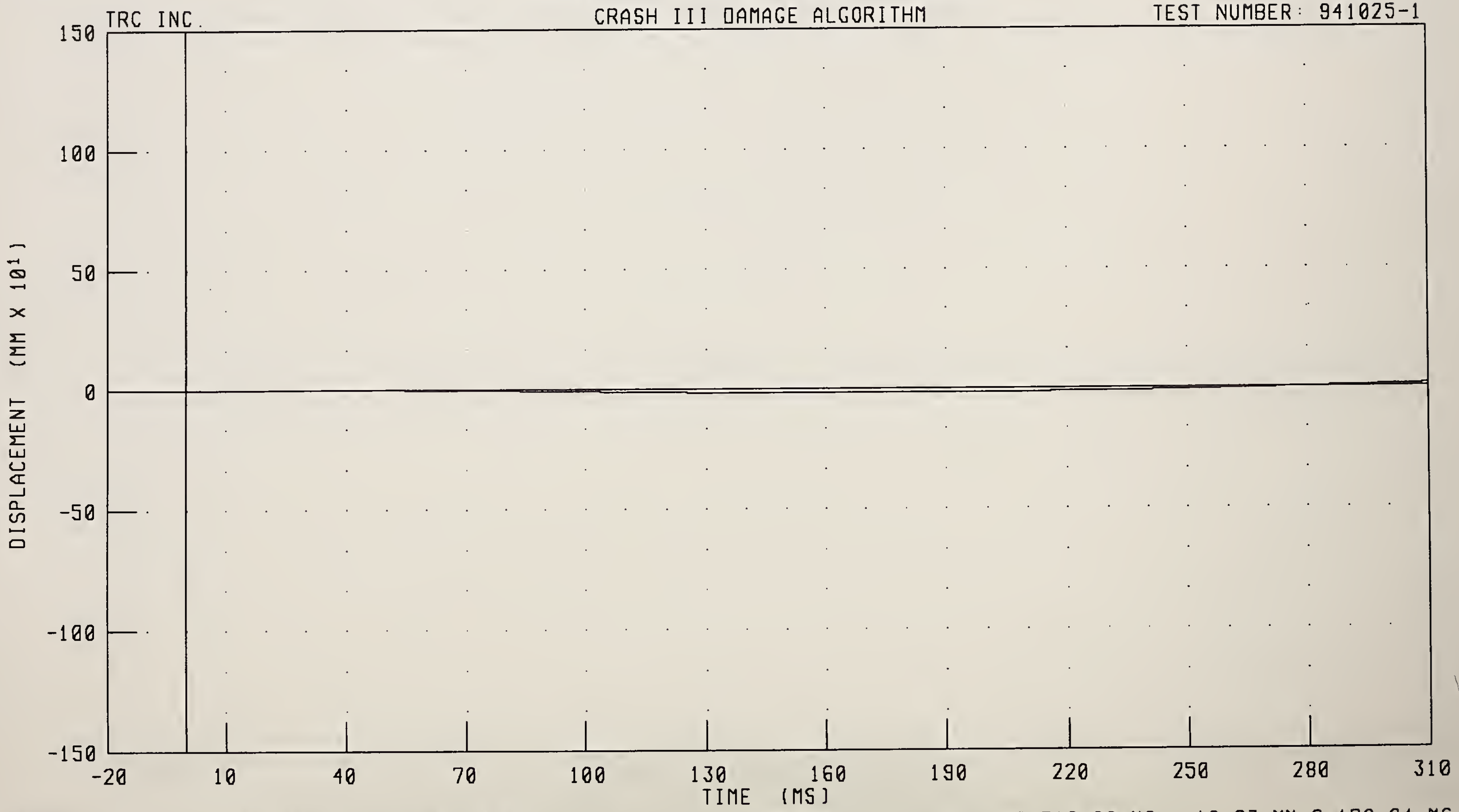
CHANNEL: RRSYG FILTER: CH. CLASS 60 PEAK DATA: 0.97 G @ 144.72 MS; -0.84 G @ 64.48 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT REAR SILL Y-AXIS VELOCITY
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-1



CHANNEL: RRSYV FILTER: CH. CLASS 180 PEAK DATA: 1.42 KM/H @ 306.40 MS; -0.77 KM/H @ 94.24 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 1 OF 5
RIGHT REAR SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: RRSYD FILTER: CH. CLASS 180 PEAK DATA: 11.35 MM @ 310.00 MS; -18.23 MM @ 170.64 MS

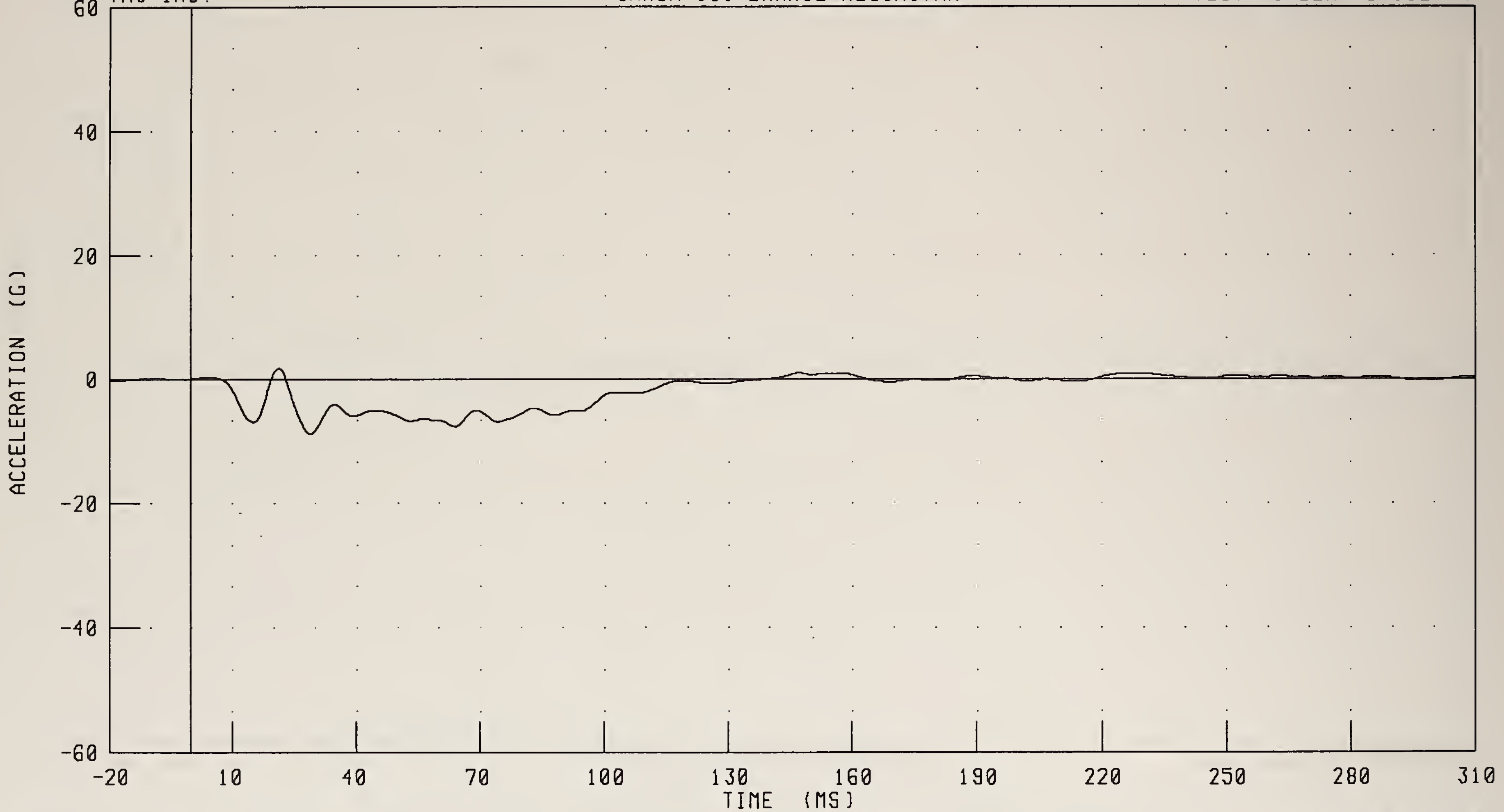
Data Plots

Test No. 941025-2

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-2

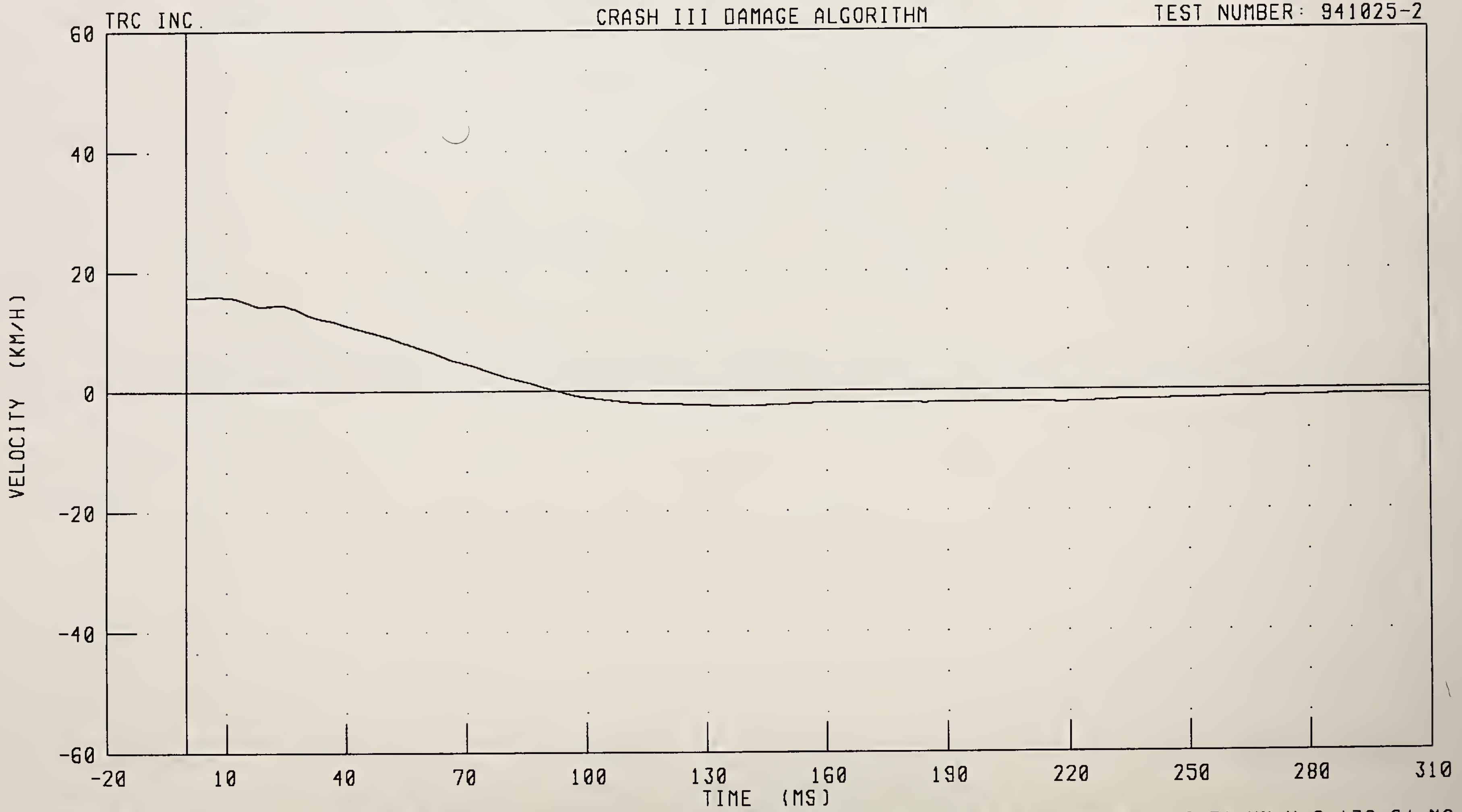


CHANNEL: VCGXG FILTER: CH. CLASS 60 PEAK DATA: 1.79 G @ 21.20 MS; -8.81 G @ 28.80 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5

VEHICLE CG X-AXIS VELOCITY

CRASH III DAMAGE ALGORITHM

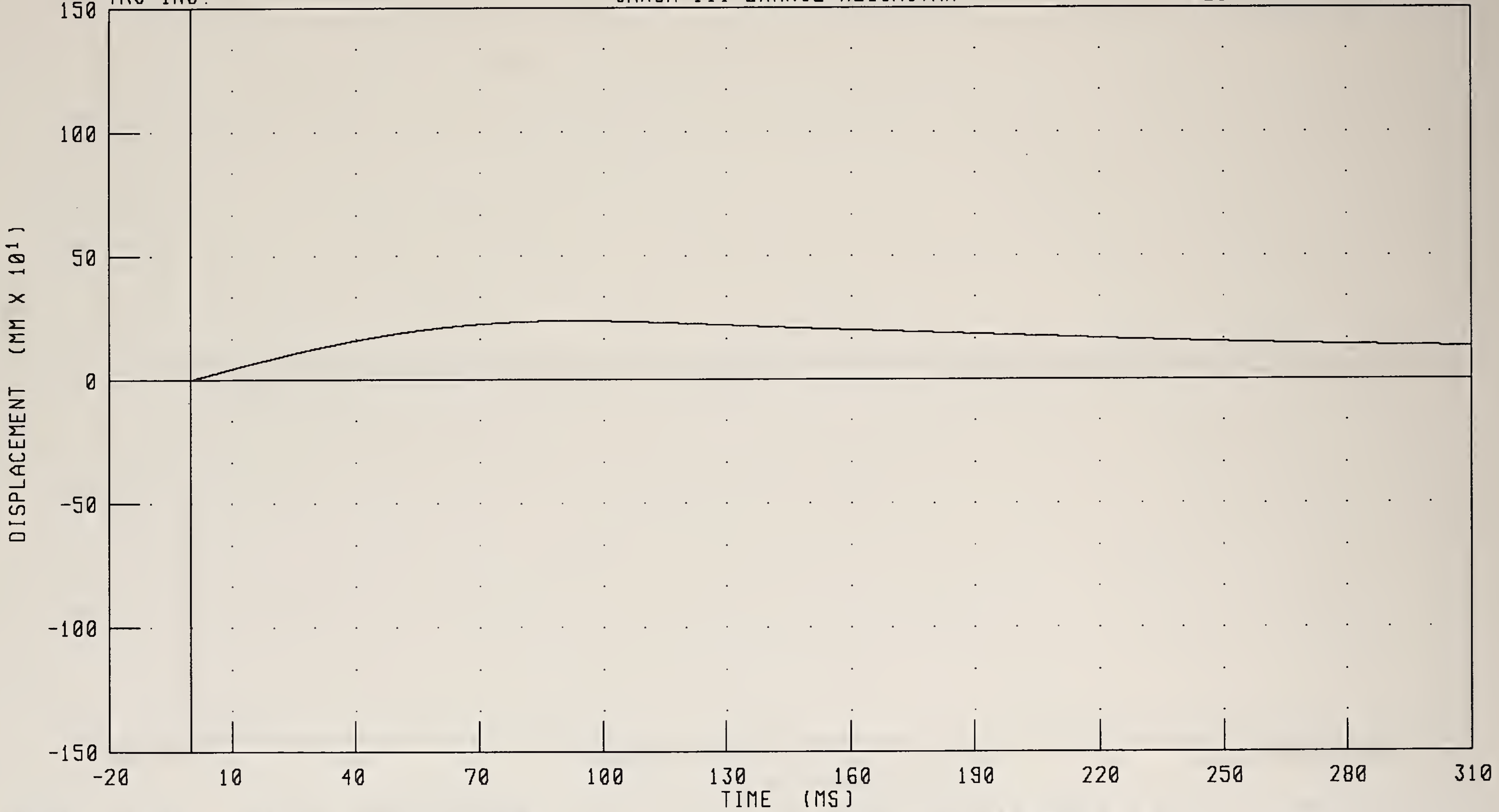


CHANNEL: VCGXV FILTER: CH. CLASS 180 PEAK DATA: 15.86 KM/H @ 6.08 MS; -2.51 KM/H @ 138.64 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

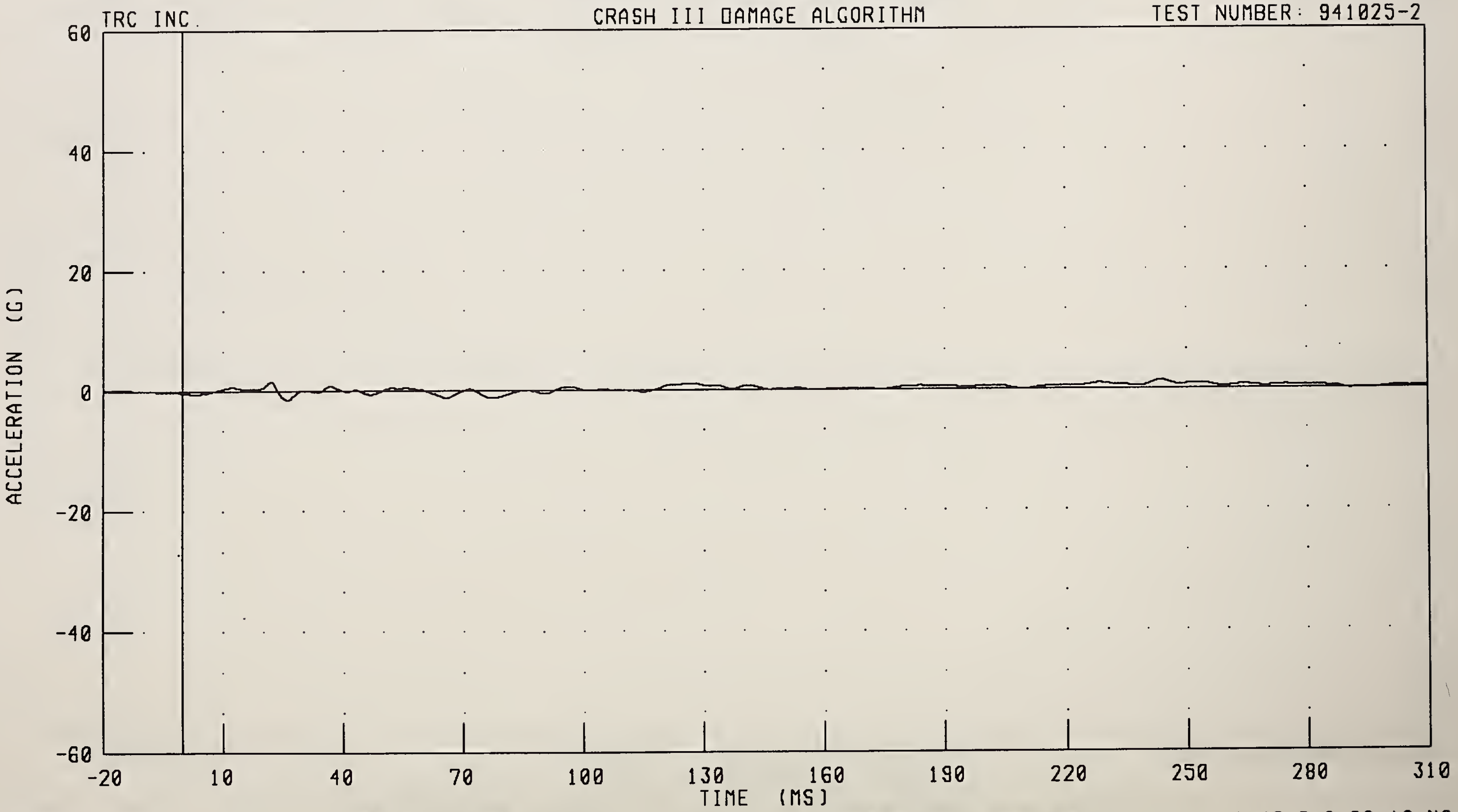
TRC INC.

TEST NUMBER: 941025-2



CHANNEL: VCGXD   FILTER: CH. CLASS 180   PEAK DATA: 237.06 MM @ 92.72 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

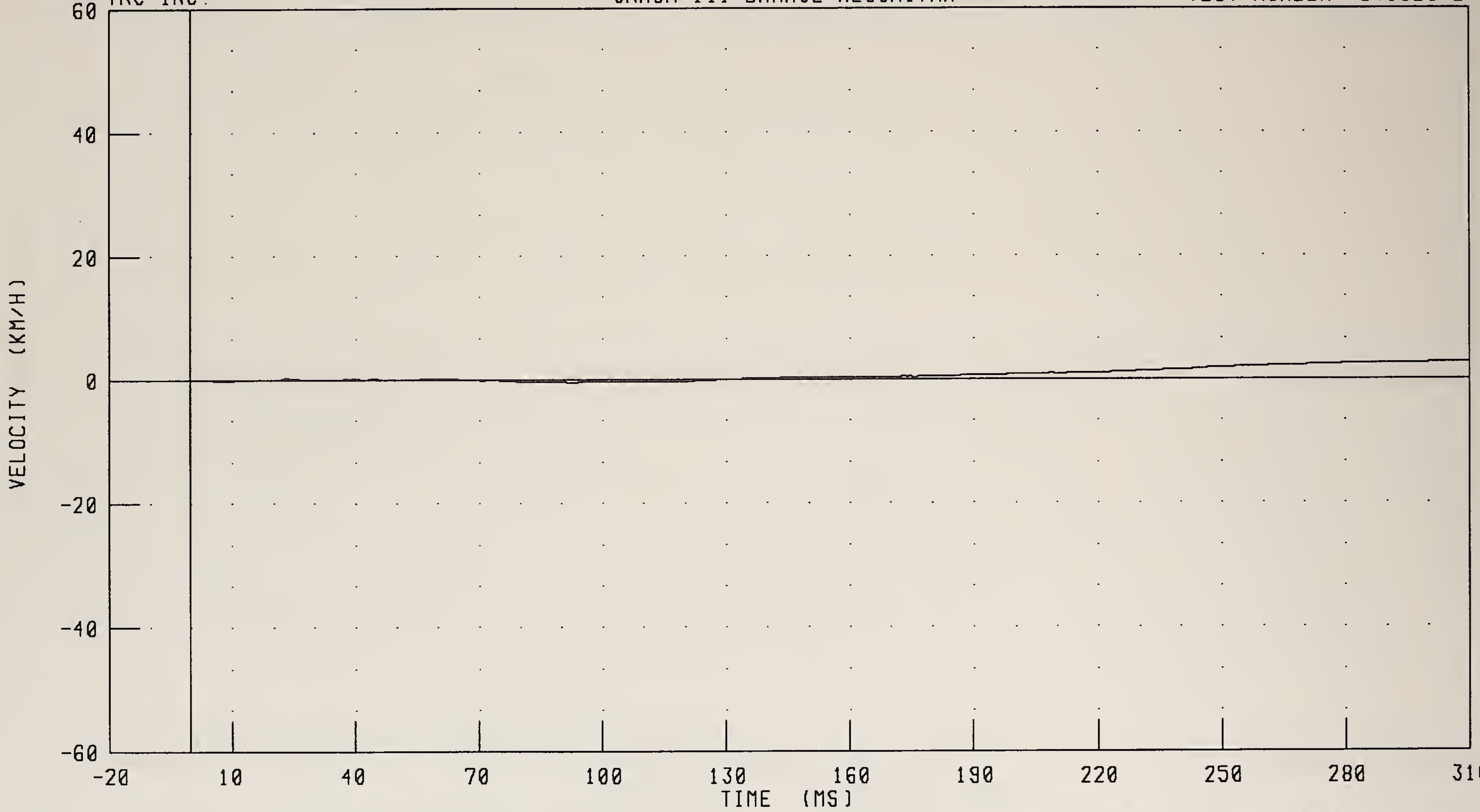


CHANNEL: VCGYG FILTER: CH. CLASS 60 PEAK DATA: 1.50 G @ 22.08 MS; -1.49 G @ 26.16 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

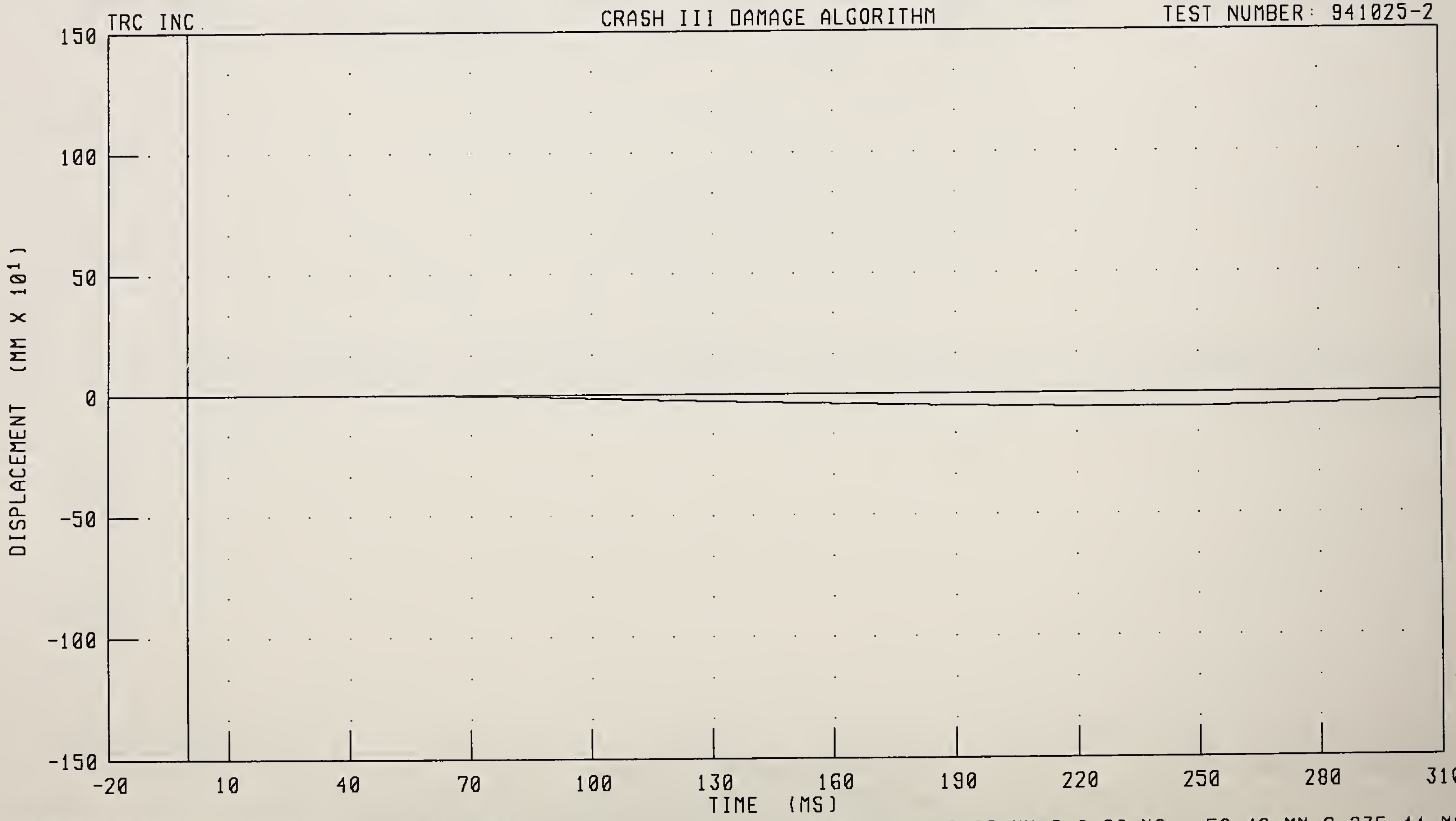
TEST NUMBER: 941025-2



CHANNEL: VCGYV FILTER: CH. CLASS 180 PEAK DATA: 2.74 KM/H @ 310.00 MS; -0.43 KM/H @ 92.16 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT FRONT SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-2

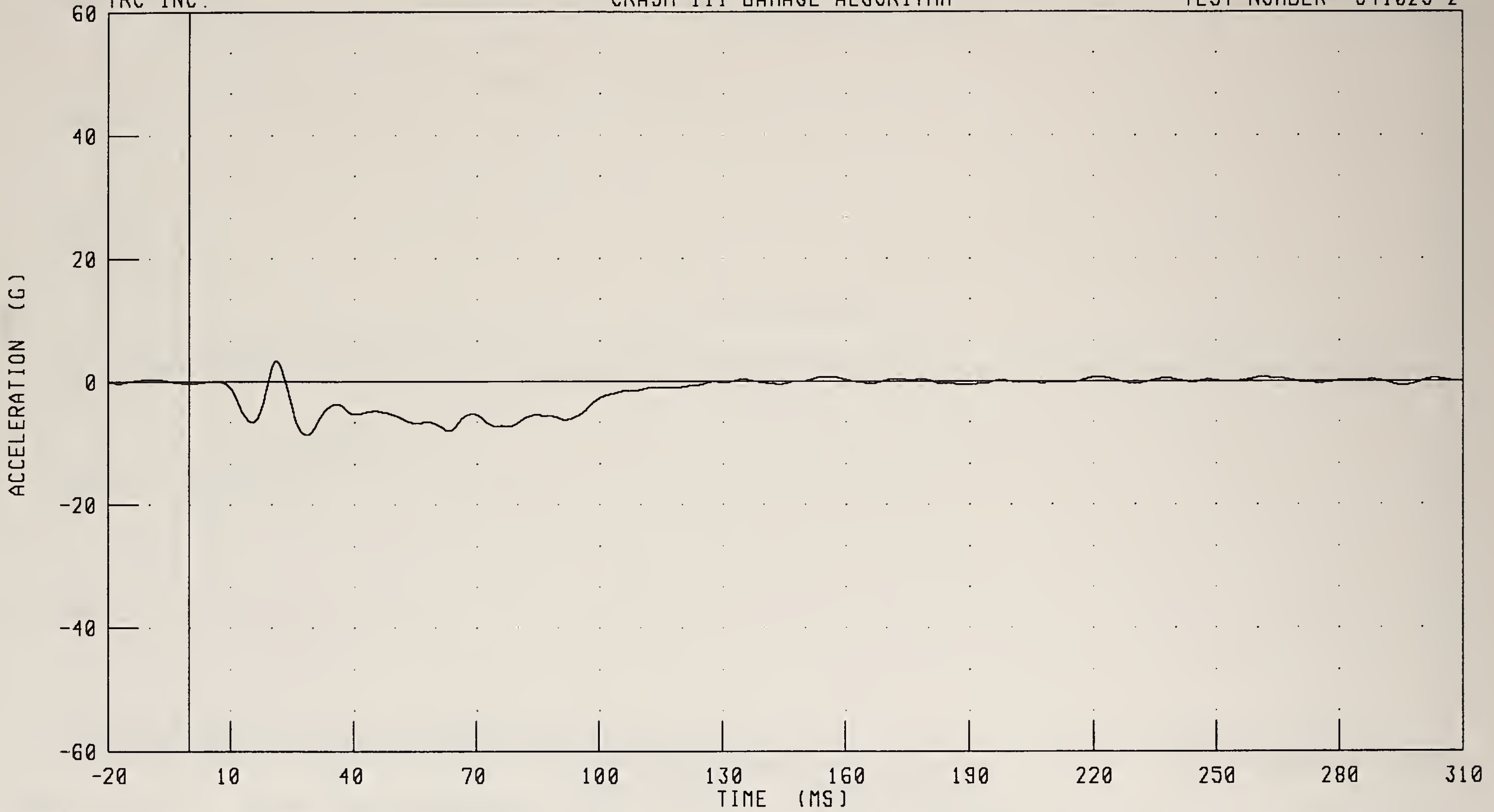


CHANNEL: LFSYD FILTER: CH. CLASS 180 PEAK DATA: 0.00 MM @ 0.00 MS; -59.40 MM @ 235.44 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-2

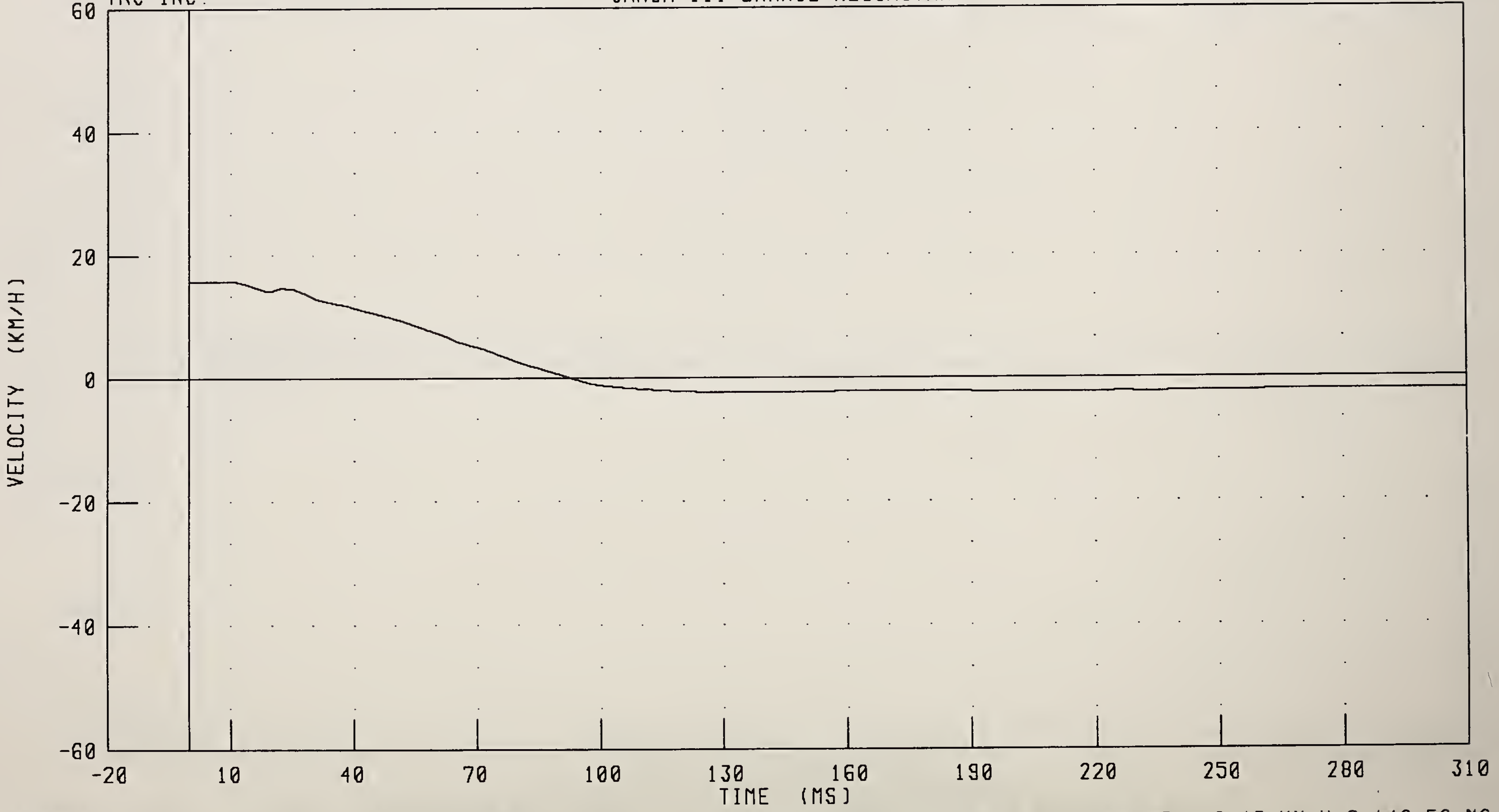


CHANNEL: RFSXG FILTER: CH. CLASS 60 PEAK DATA: 3.41 G @ 21.20 MS; -8.69 G @ 28.72 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-2

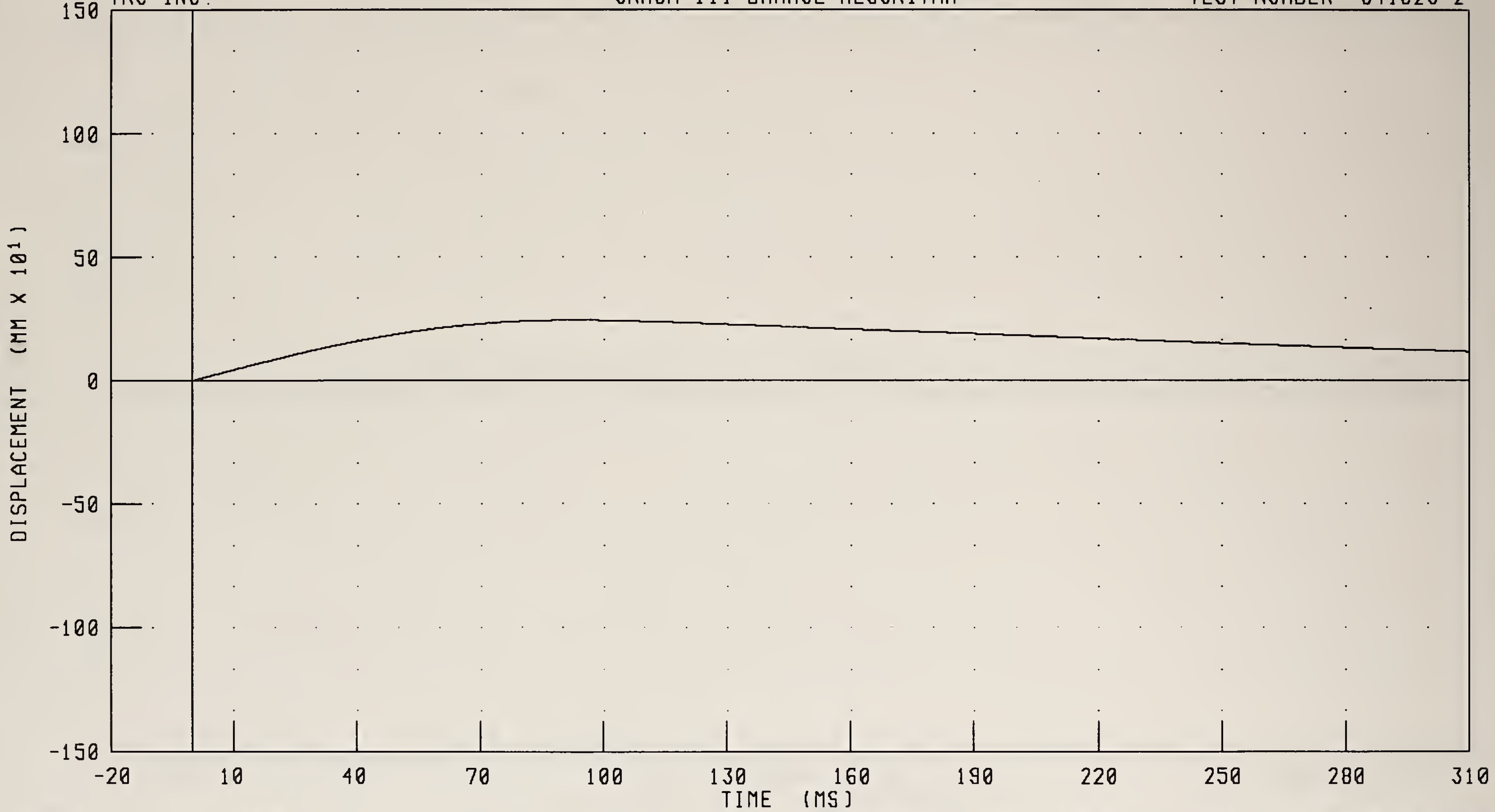


CHANNEL: RFSXV FILTER: CH. CLASS 180 PEAK DATA: 15.80 KM/H @ 0.00 MS; -2.43 KM/H @ 146.56 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

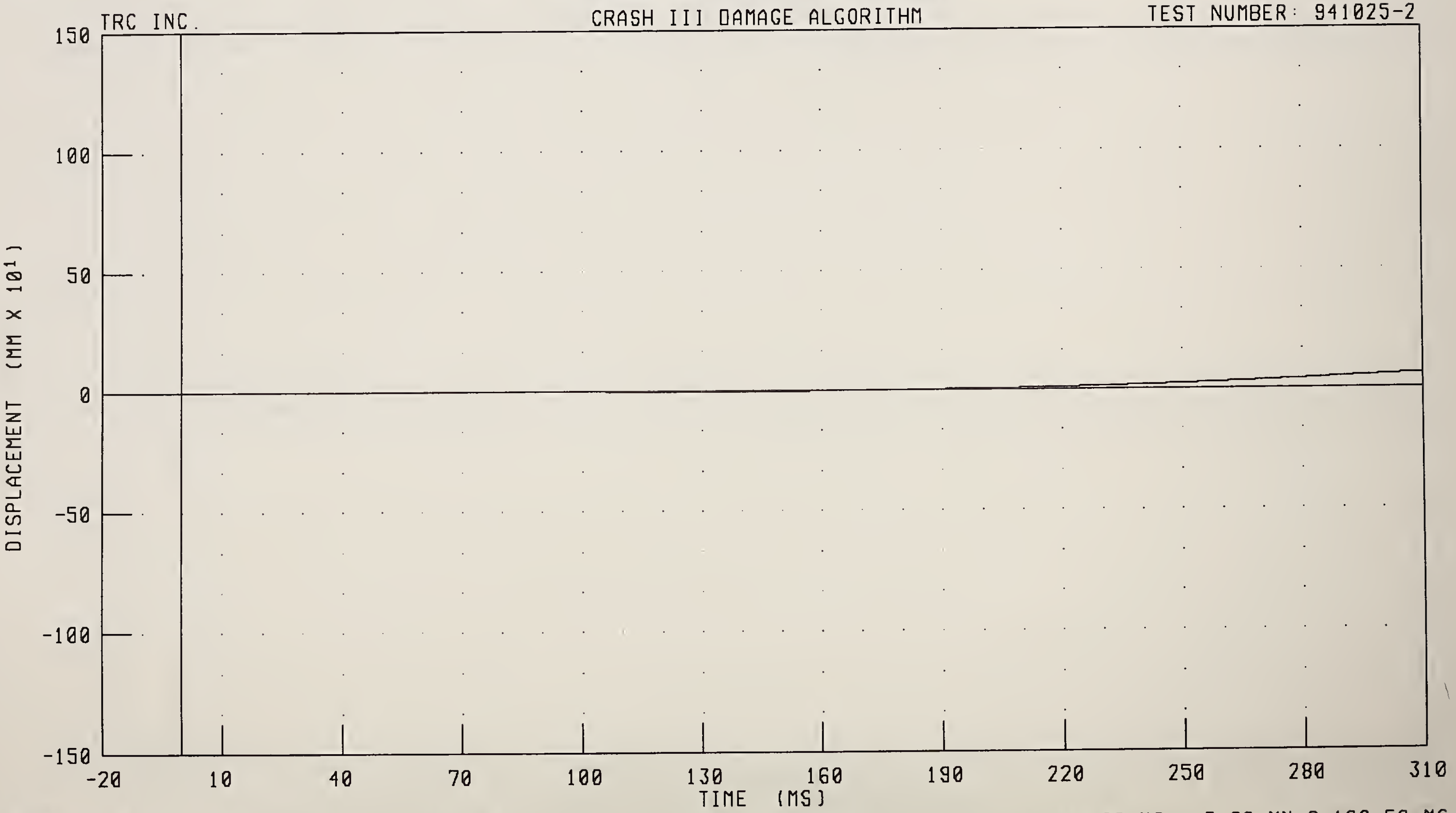
TRC INC.

TEST NUMBER: 941025-2



CHANNEL: RFSXD FILTER: CH. CLASS 180 PEAK DATA: 244.58 MM @ 92.72 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

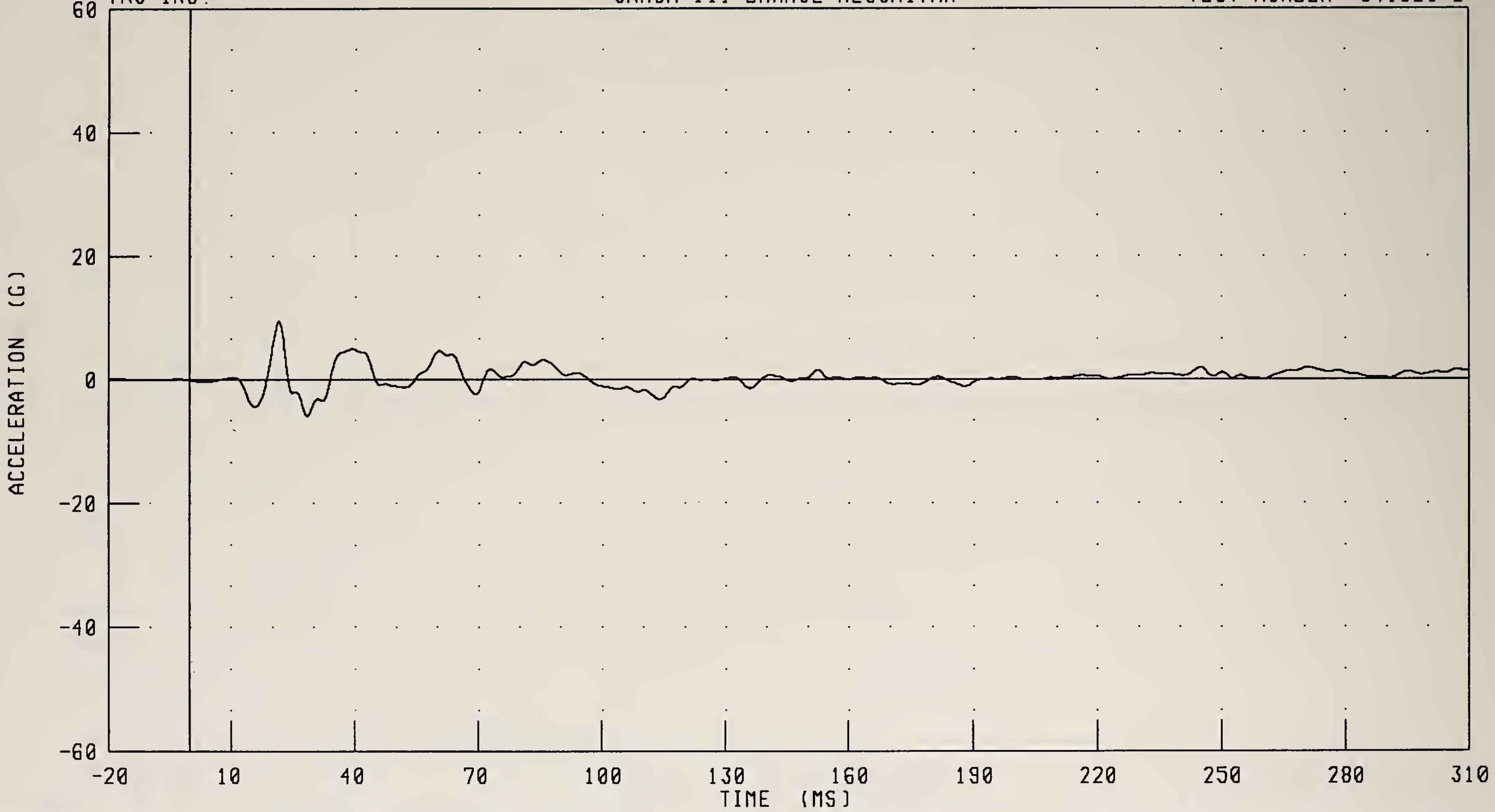


CHANNEL: VCGYD FILTER: CH. CLASS 180 PEAK DATA: 61.59 MM @ 310.00 MS; -3.62 MM @ 129.52 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG Z-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-2

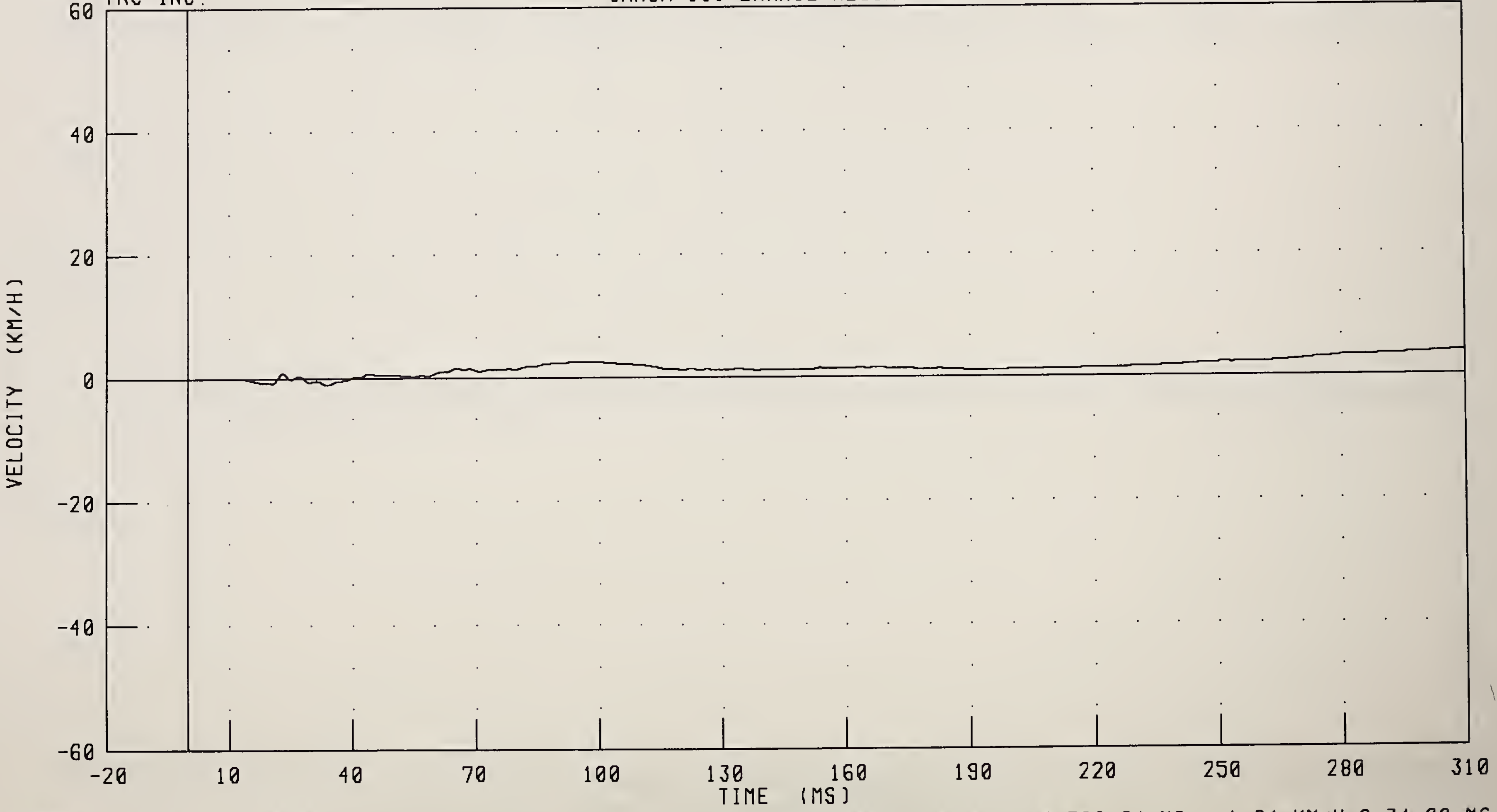


CHANNEL: VCGZG FILTER: CH. CLASS 60 PEAK DATA: 9.44 G @ 21.60 MS; -5.84 G @ 28.40 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG Z-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

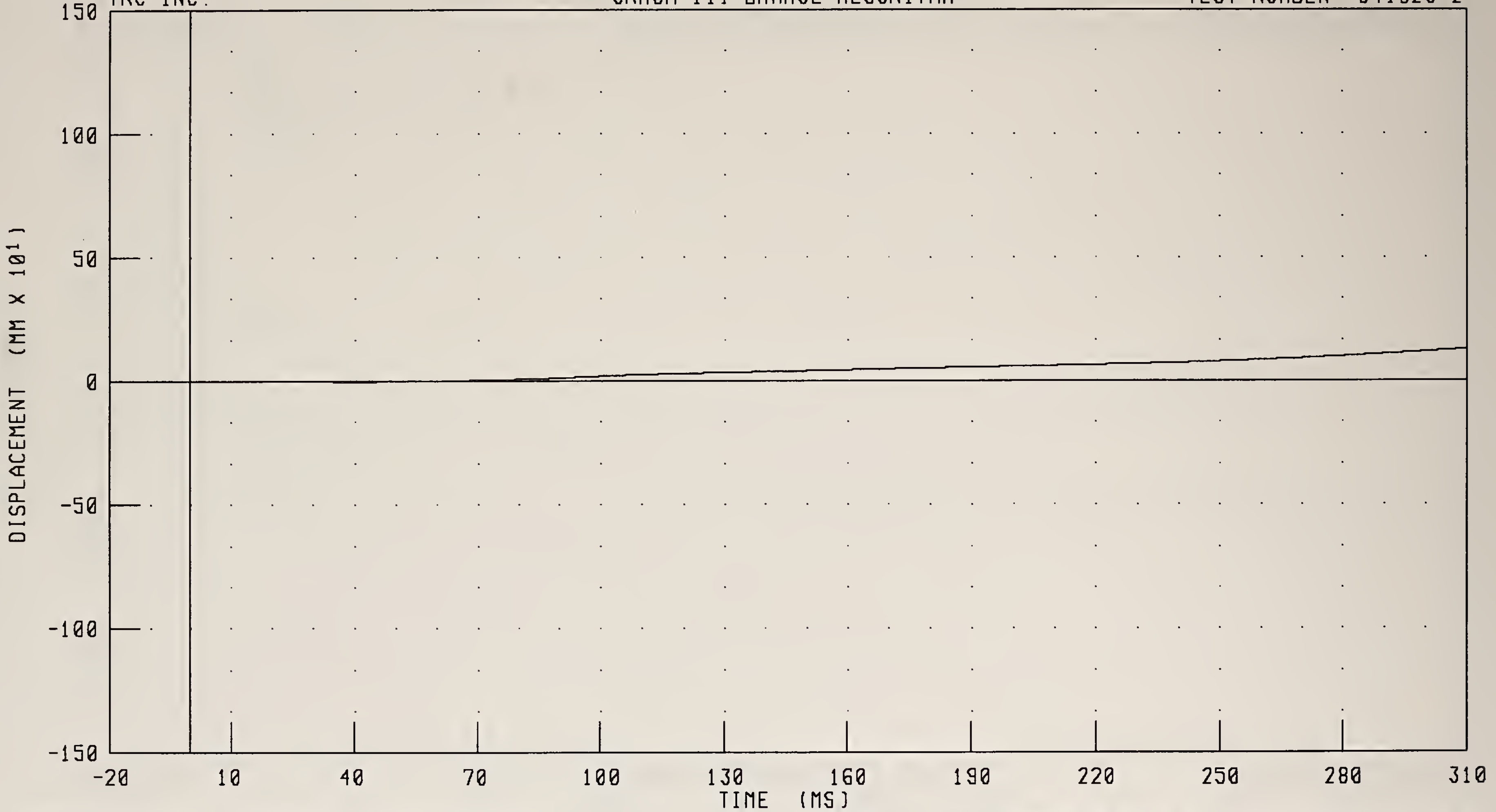
TRC INC.

TEST NUMBER: 941025-2



CHANNEL: VCGZV FILTER: CH. CLASS 180 PEAK DATA: 3.99 KM/H @ 308.64 MS; -1.04 KM/H @ 34.00 MS

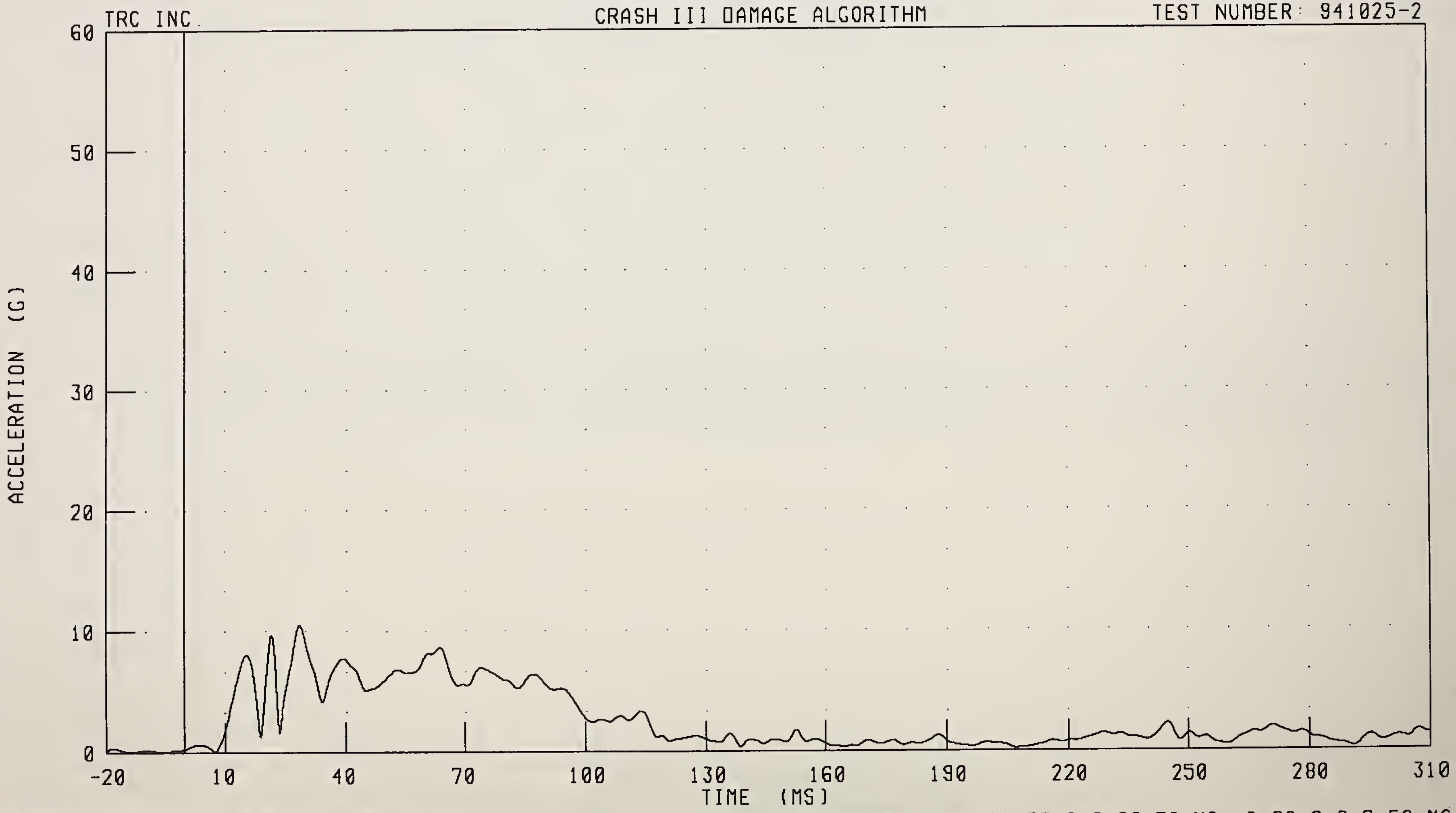
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG Z-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-2



CHANNEL: VCGZD FILTER: CH. CLASS 180 PEAK DATA: 128.46 MM @ 310.00 MS; -2.51 MM @ 39.84 MS

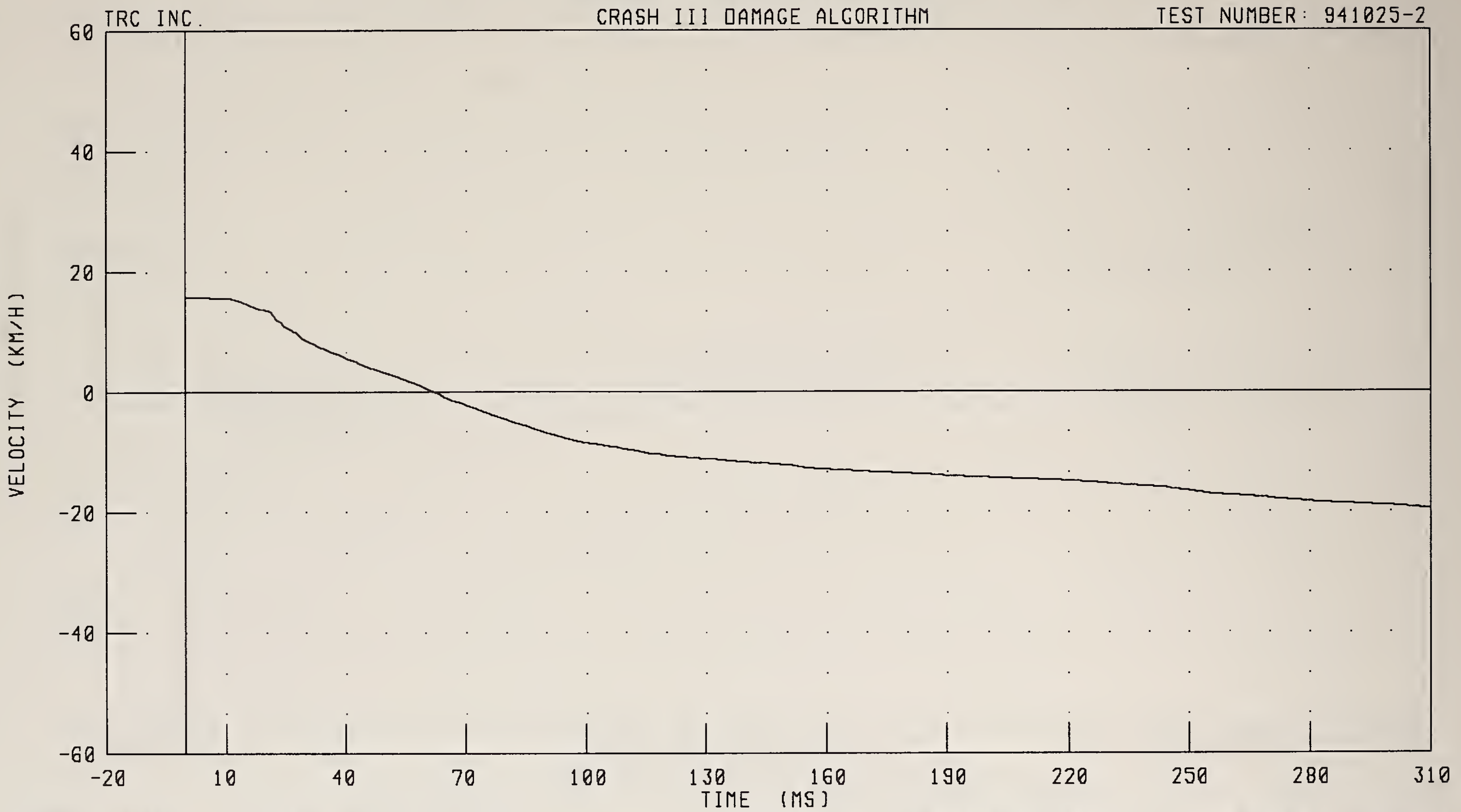
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG RESULTANT ACCELERATION
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-2



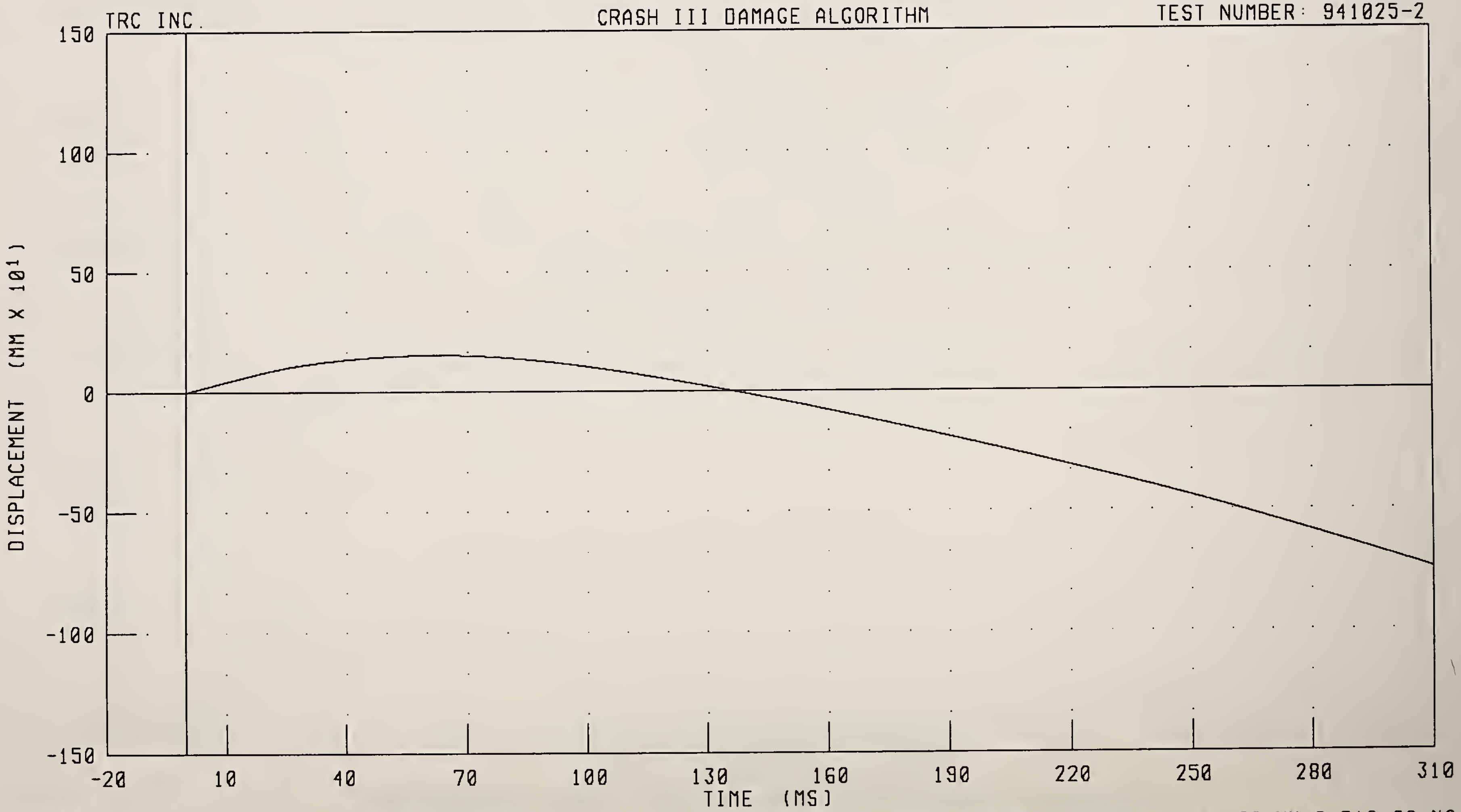
CHANNEL: VCGRG   FILTER: CH. CLASS 60   PEAK DATA: 10.53 G @ 28.56 MS; 0.06 G @ 7.52 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG RESULTANT VELOCITY
CRASH III DAMAGE ALGORITHM

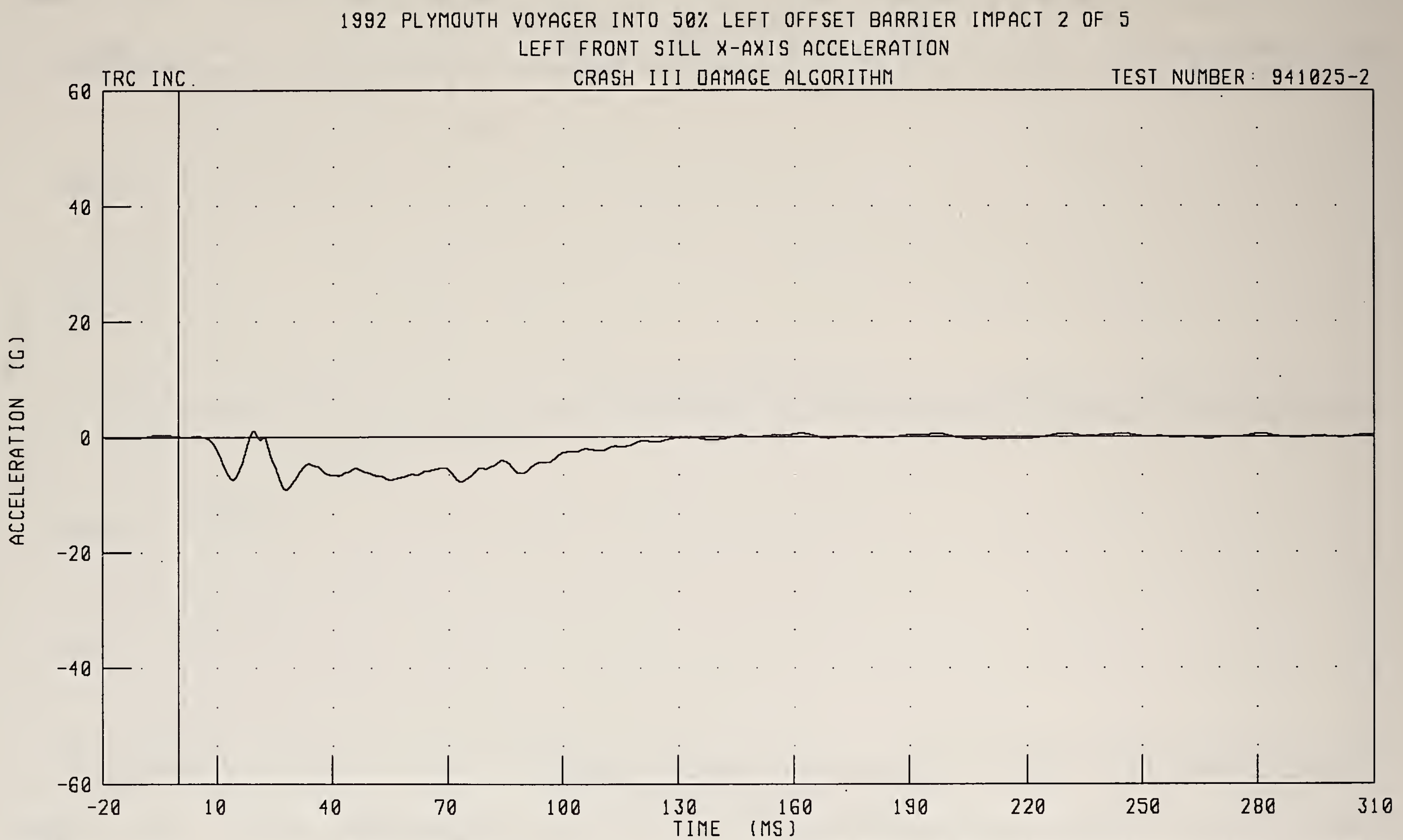


CHANNEL: VCGRV FILTER: CH. CLASS 180 PEAK DATA: 15.80 KM/H @ 0.00 MS; -19.48 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
VEHICLE CG RESULTANT DISPLACEMENT
CRASH III DAMAGE ALGORITHM

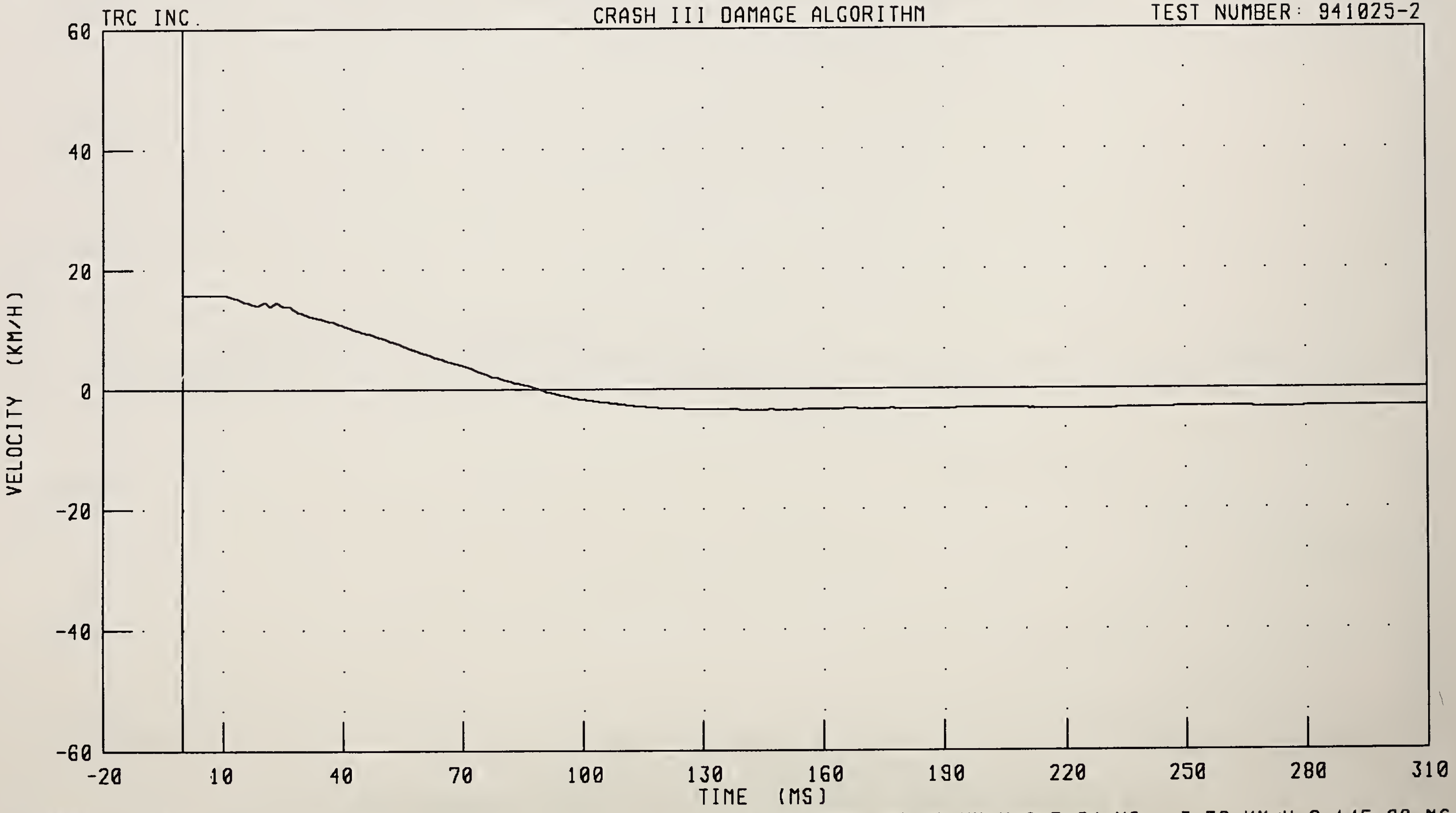


CHANNEL: VCGRD FILTER: CH. CLASS 180 PEAK DATA: 152.37 MM @ 62.08 MS; -744.92 MM @ 310.00 MS


1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

CHANNEL: LFSXG FILTER: CH. CLASS 60 PEAK DATA: 1.07 G @ 19.52 MS; -9.08 G @ 28.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

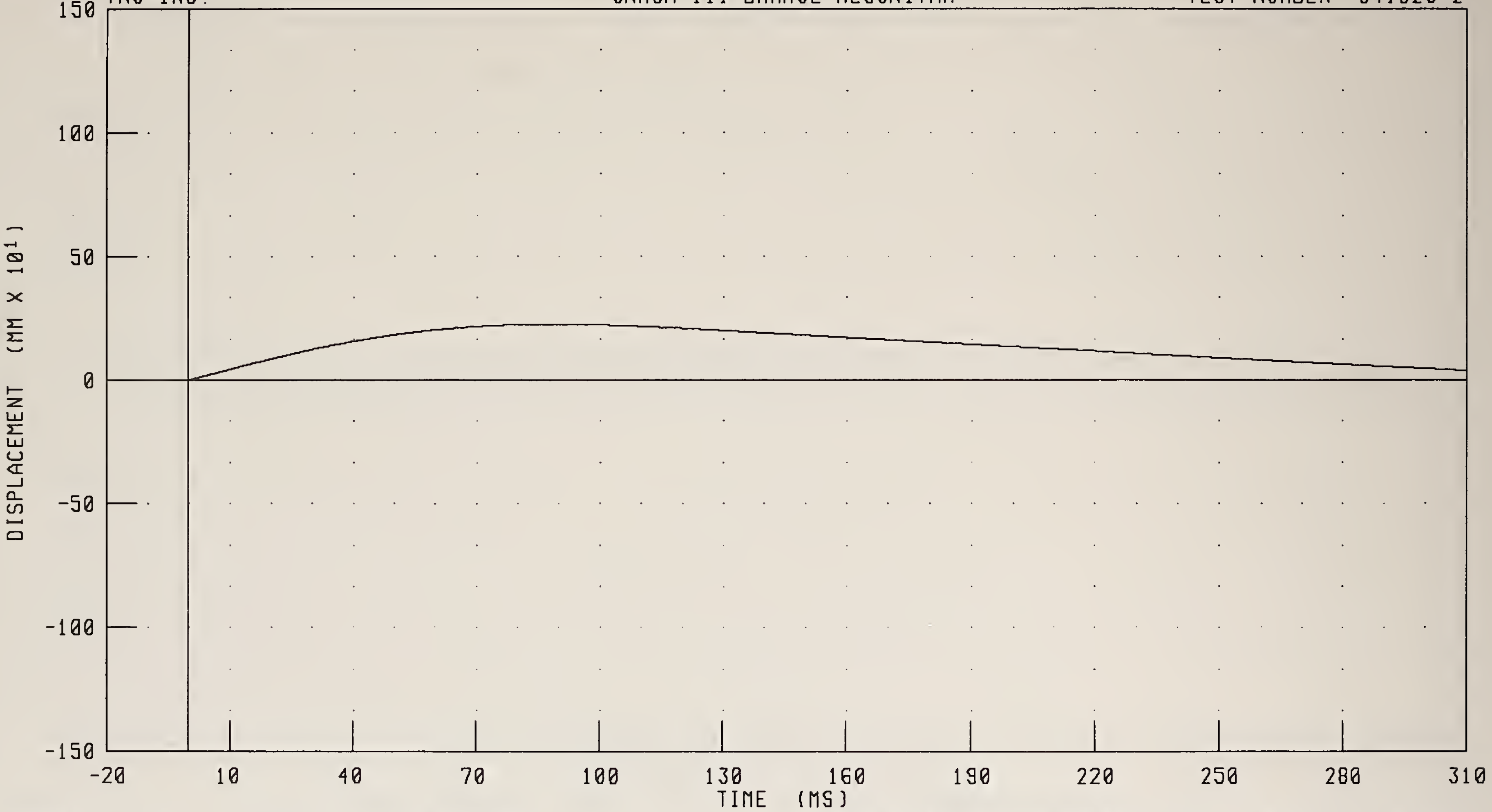


CHANNEL: LFSXV FILTER: CH. CLASS 180 PEAK DATA: 15.81 KM/H @ 5.04 MS; -3.50 KM/H @ 145.20 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-2

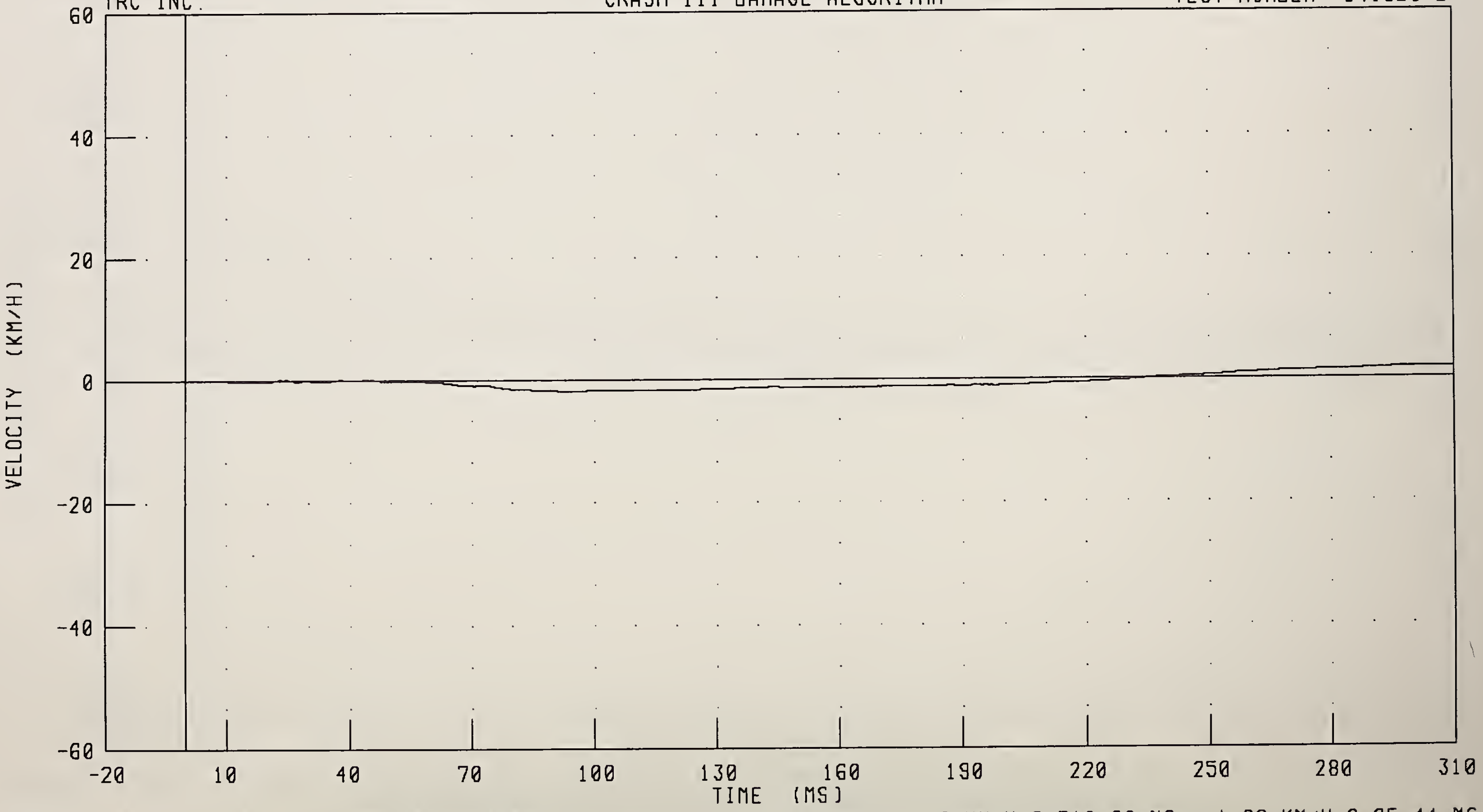


CHANNEL: LFSXD FILTER: CH. CLASS 180 PEAK DATA: 226.46 MM @ 89.28 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

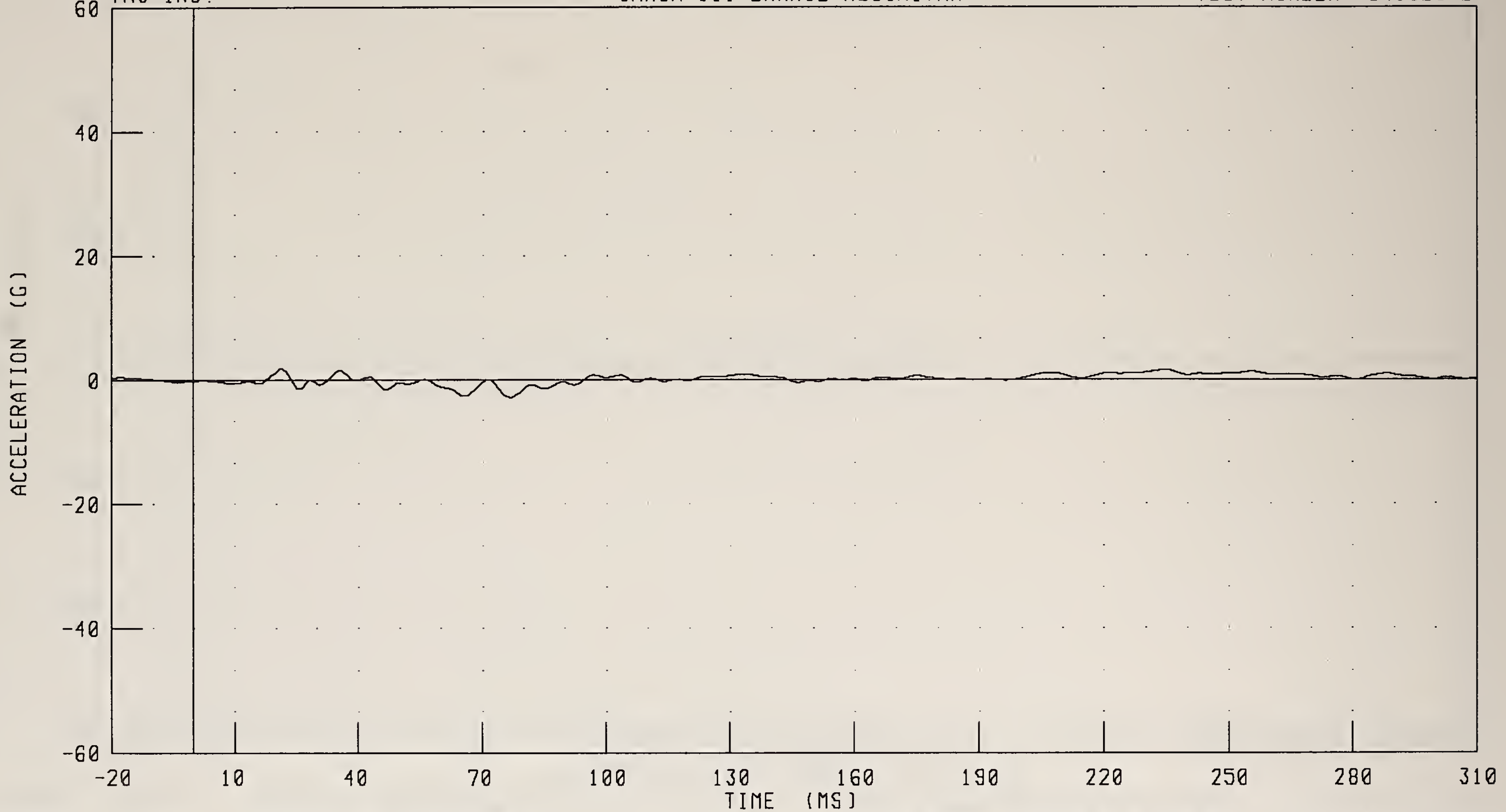
TEST NUMBER: 941025-2



CHANNEL: LFSYV FILTER: CH. CLASS 180 PEAK DATA: 1.76 KM/H @ 310.00 MS; -1.88 KM/H @ 95.44 MS

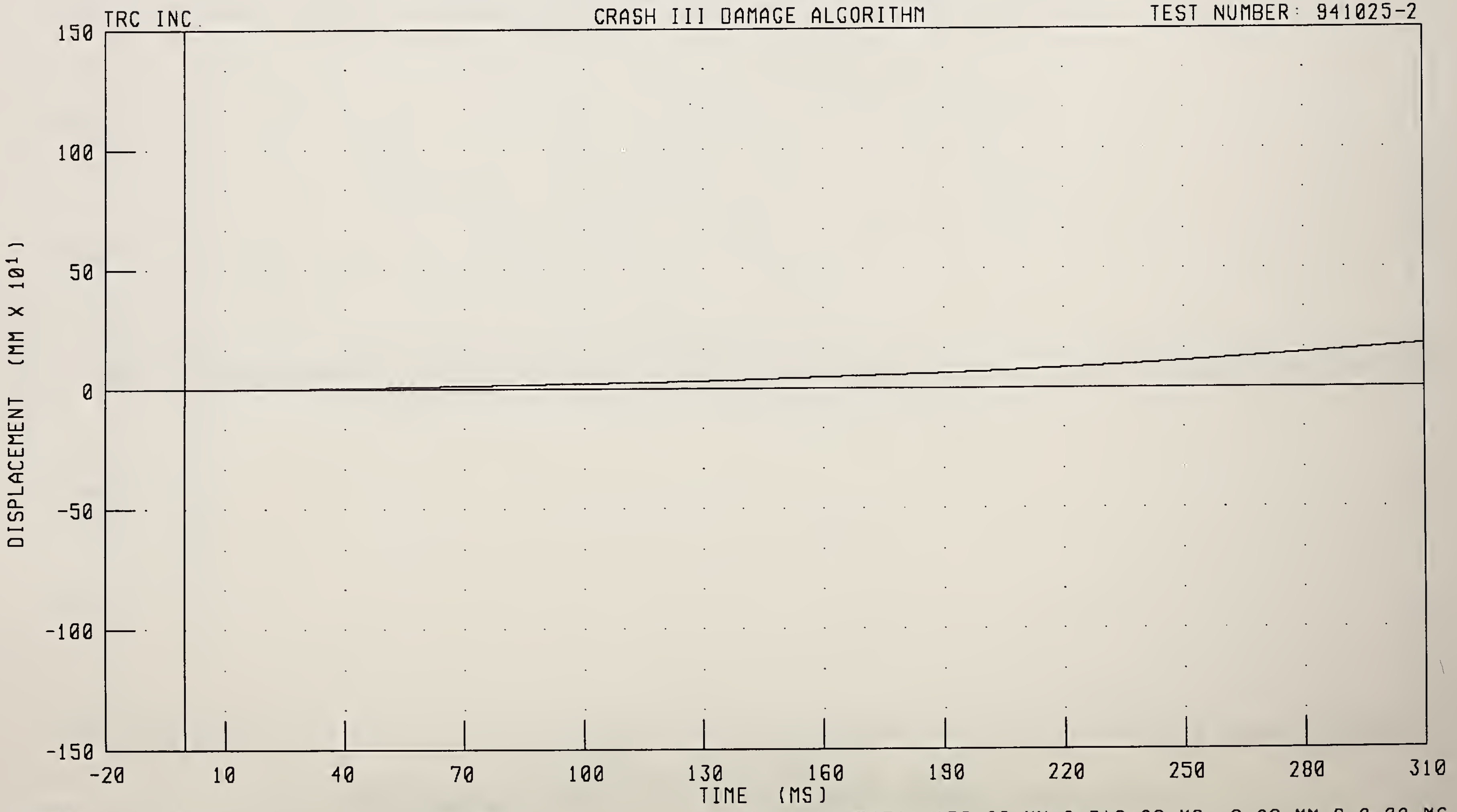
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT FRONT SILL Y-AXIS ACCELERATION

TRC INC.
CRASH III DAMAGE ALGORITHM
TEST NUMBER: 941025-2



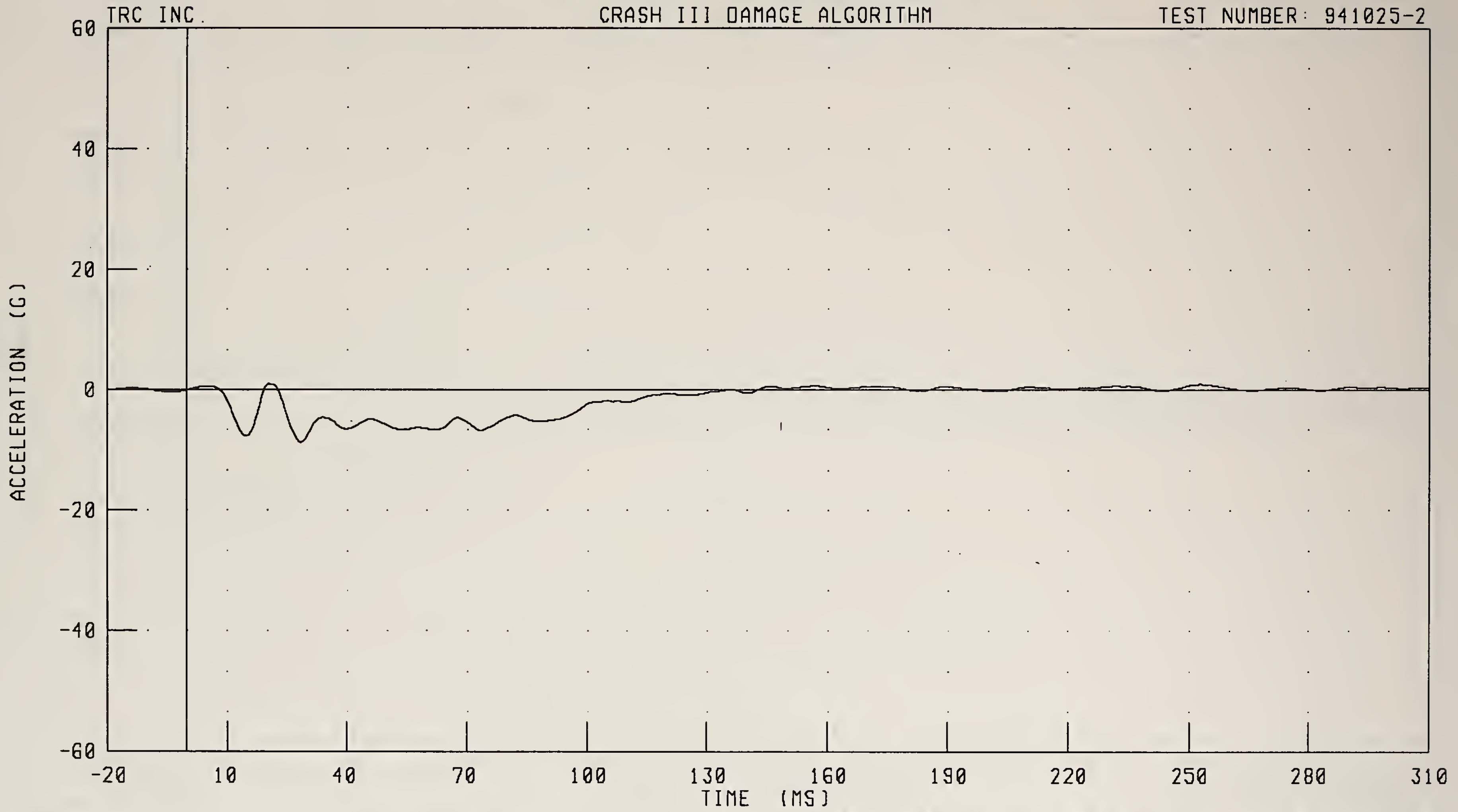
CHANNEL: LFSYG FILTER: CH. CLASS 60 PEAK DATA: 1.86 G @ 21.28 MS; -2.83 G @ 76.96 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT FRONT SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



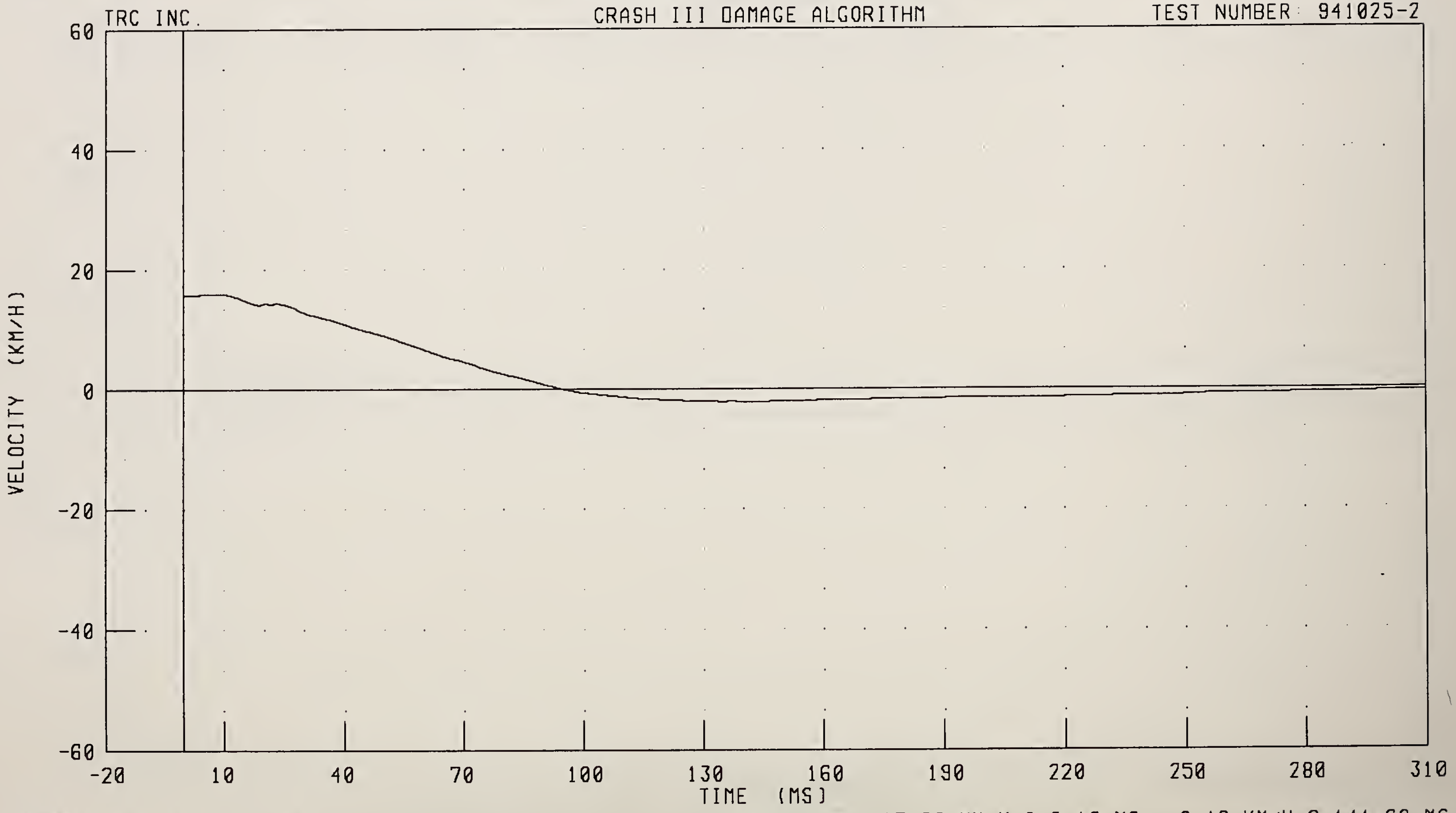
CHANNEL: RFSYD FILTER: CH. CLASS 180 PEAK DATA: 178.89 MM @ 310.00 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



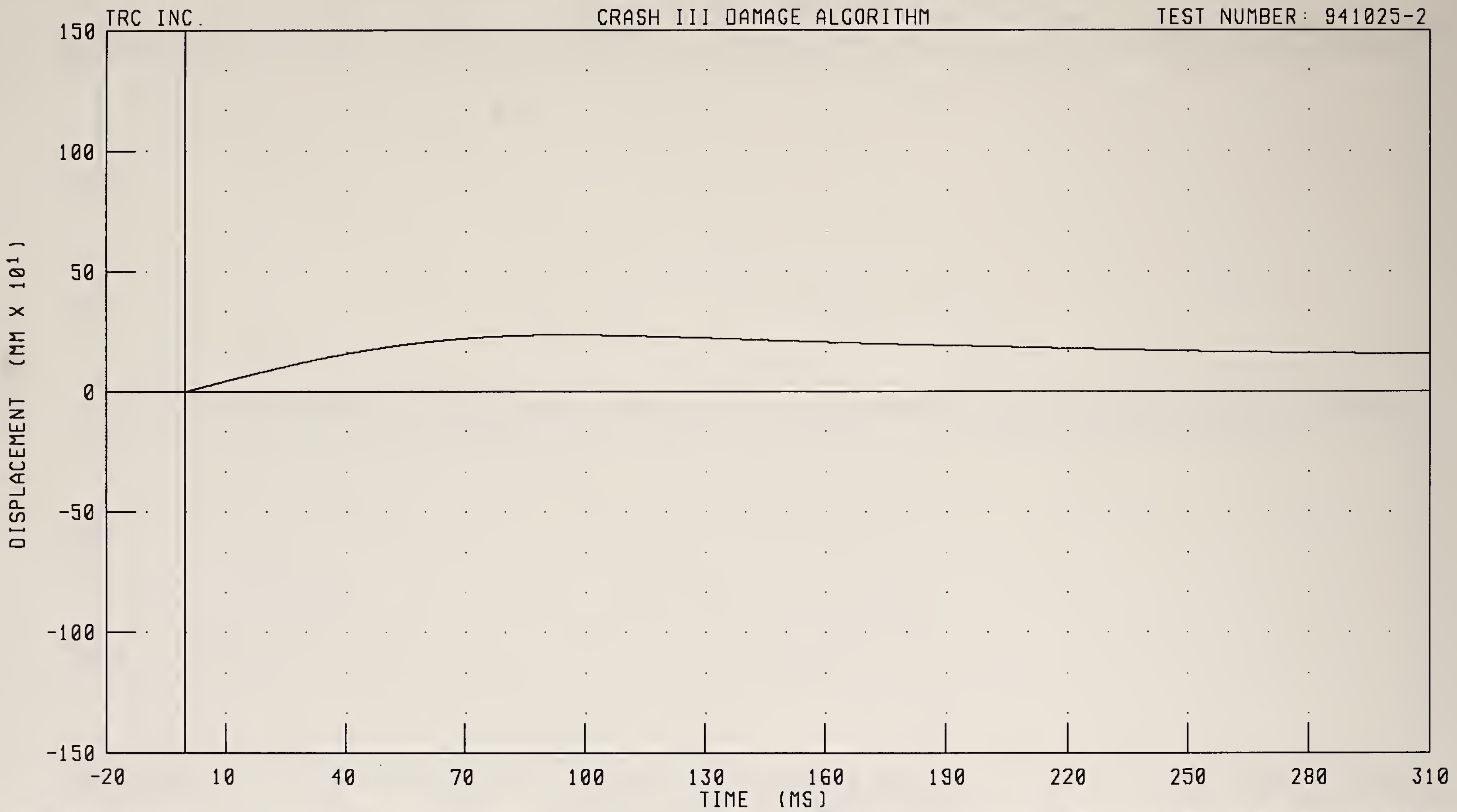
CHANNEL: LRSXG FILTER: CH. CLASS 60 PEAK DATA: 0.96 G @ 20.40 MS; -8.74 G @ 28.48 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: LRSXV FILTER: CH. CLASS 180 PEAK DATA: 15.90 KM/H @ 8.16 MS; -2.19 KM/H @ 141.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

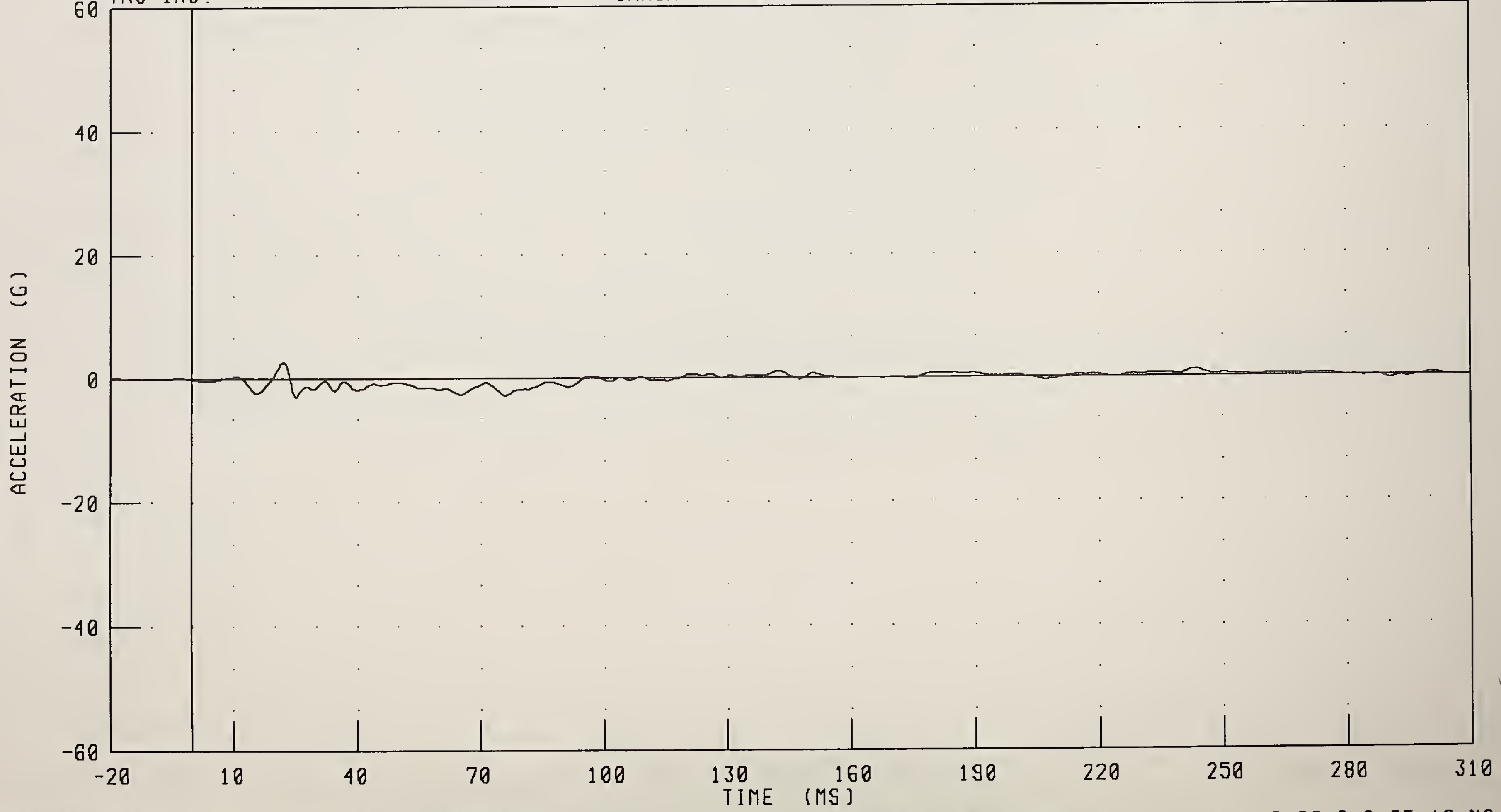


CHANNEL: LRSXD FILTER: CH. CLASS 180 PEAK DATA: 236.57 MM @ 94.64 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT REAR SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

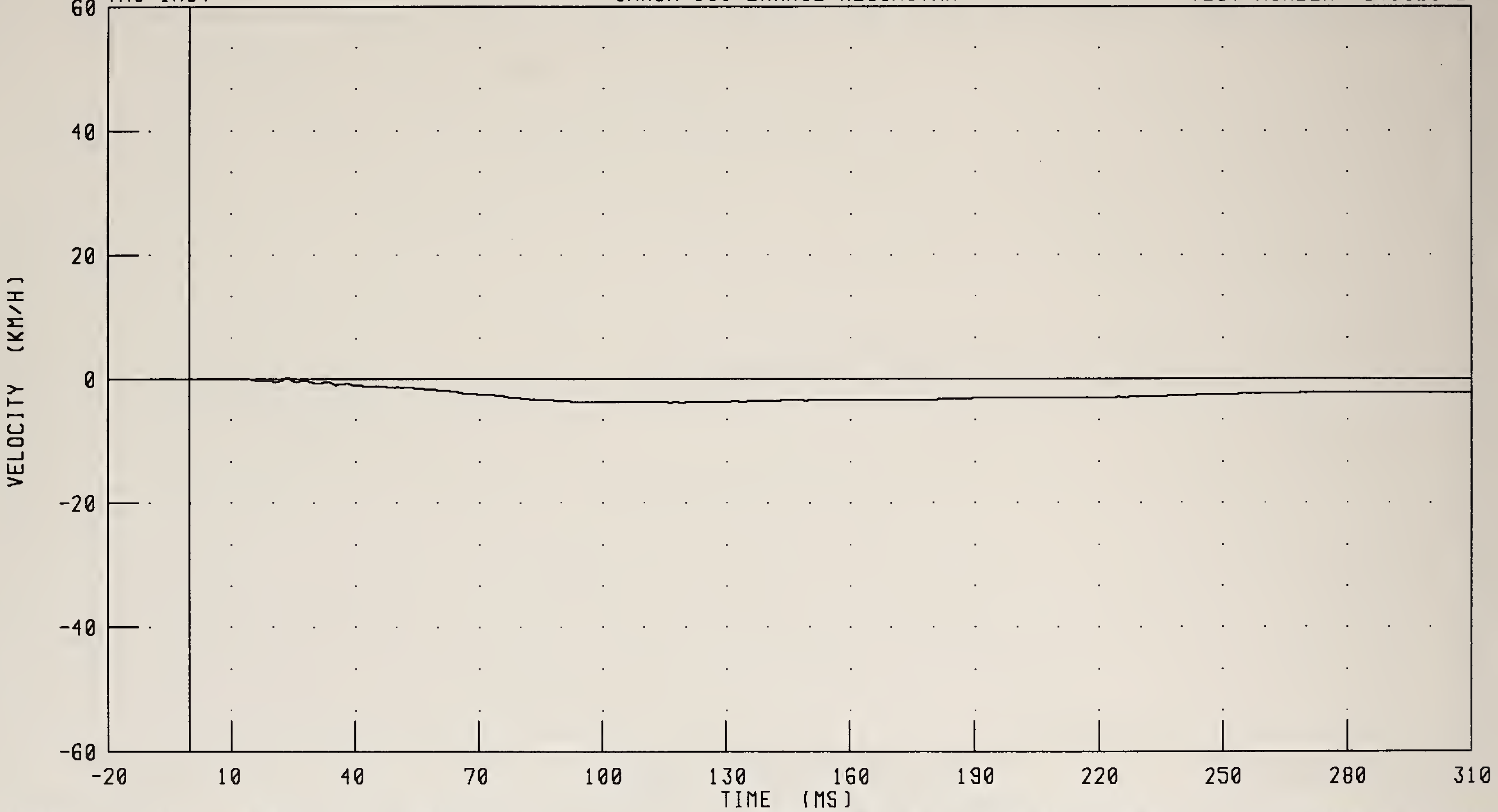
TRC INC.

TEST NUMBER: 941025-2



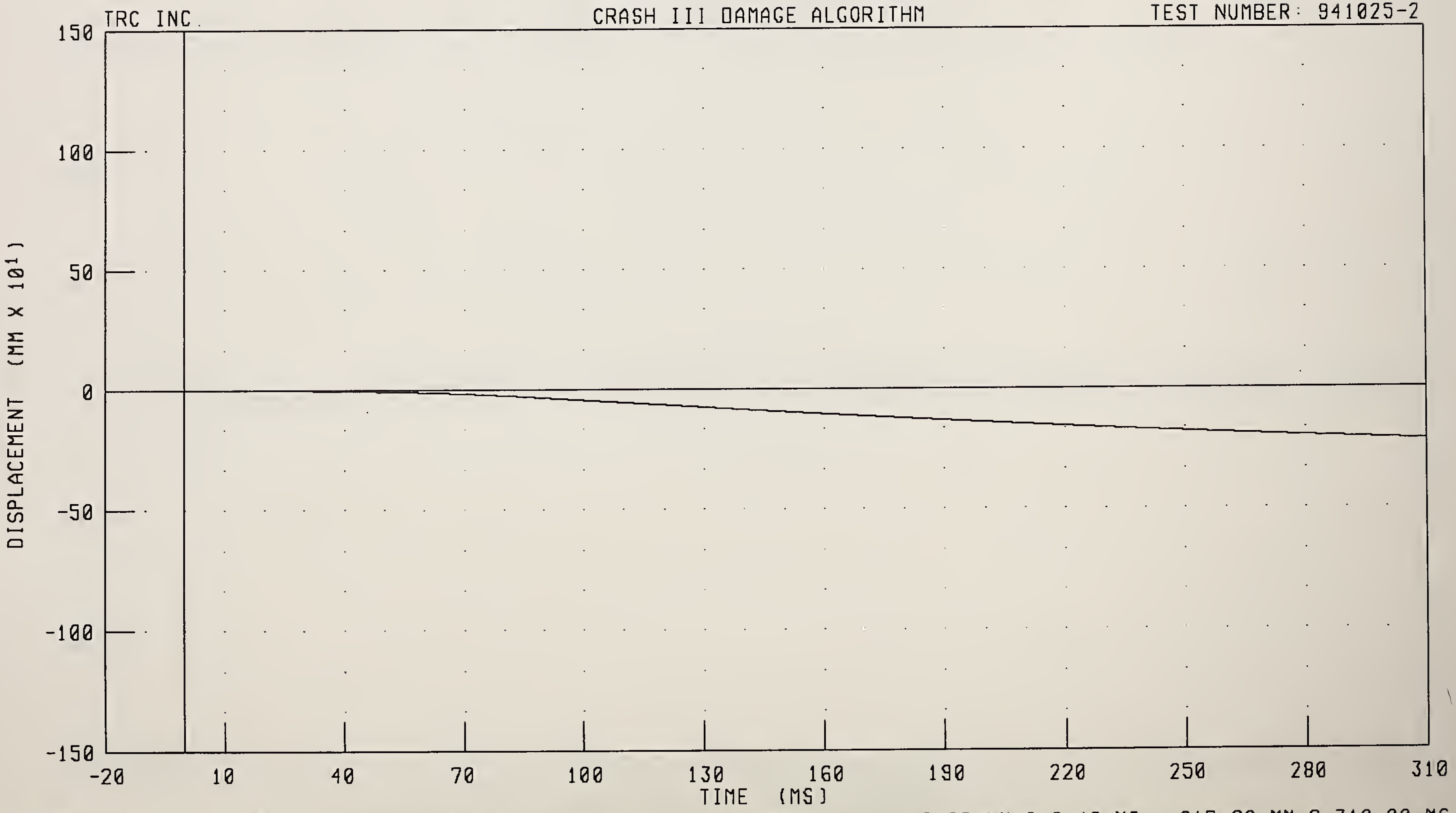
CHANNEL: LRSYG FILTER: CH. CLASS 60 PEAK DATA: 2.66 G @ 22.00 MS; -2.96 G @ 25.12 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT REAR SILL Y-AXIS VELOCITY
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-2



CHANNEL: LRSYV FILTER: CH. CLASS 180 PEAK DATA: 0.21 KM/H @ 23.68 MS; -3.83 KM/H @ 119.28 MS

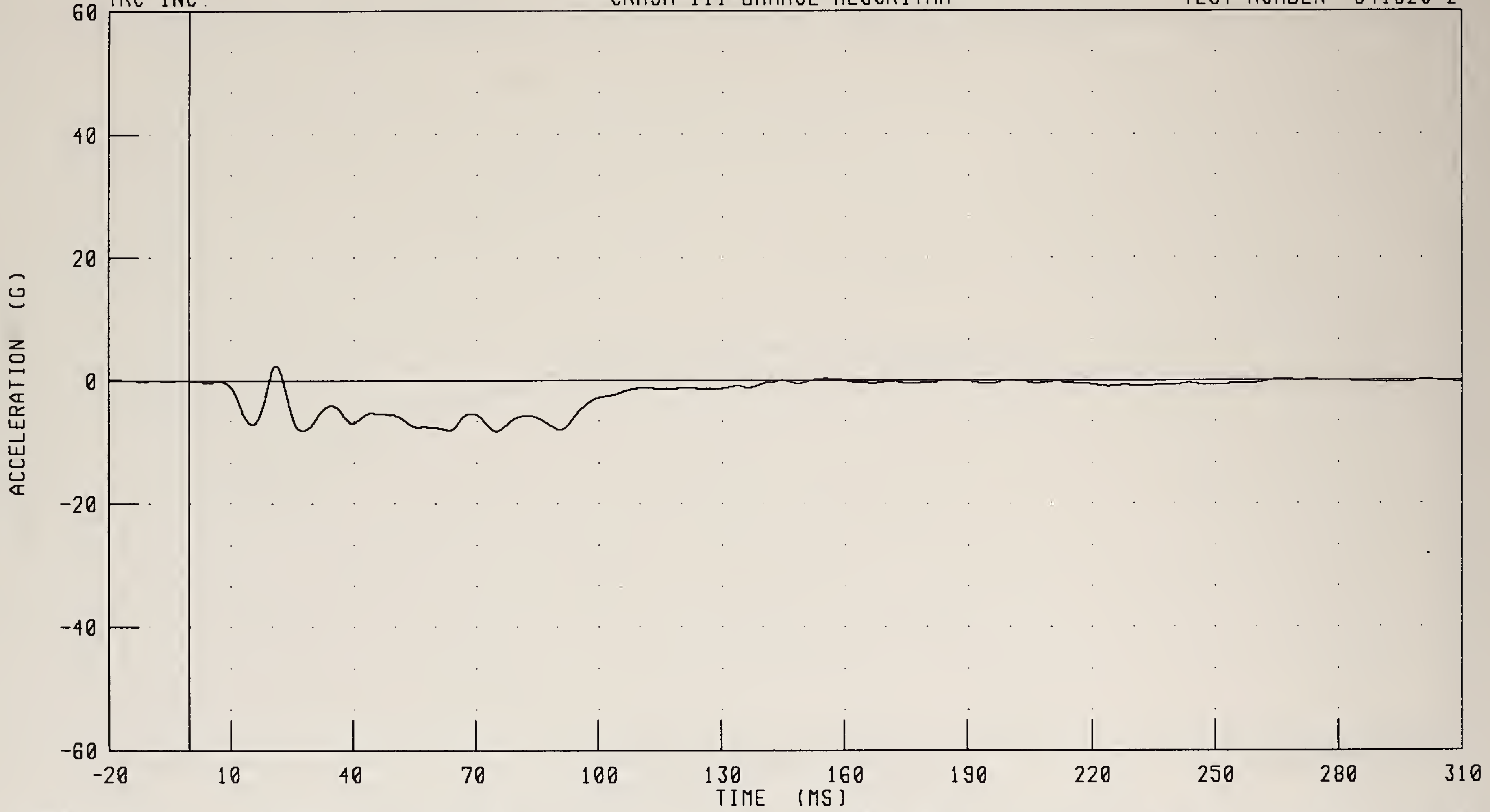
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
LEFT REAR SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: LRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.00 MM @ 0.48 MS; -217.66 MM @ 310.00 MS

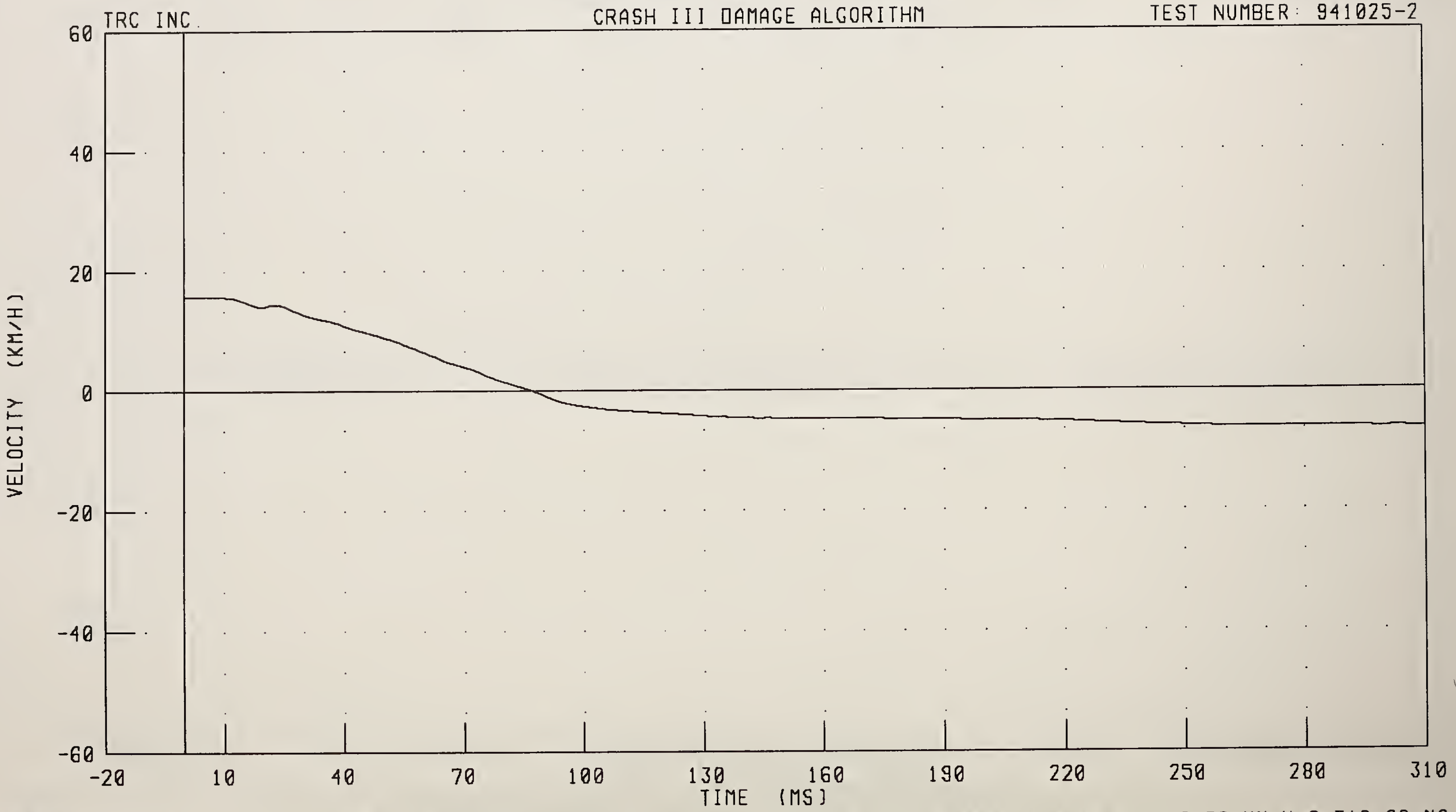
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC. TEST NUMBER: 941025-2



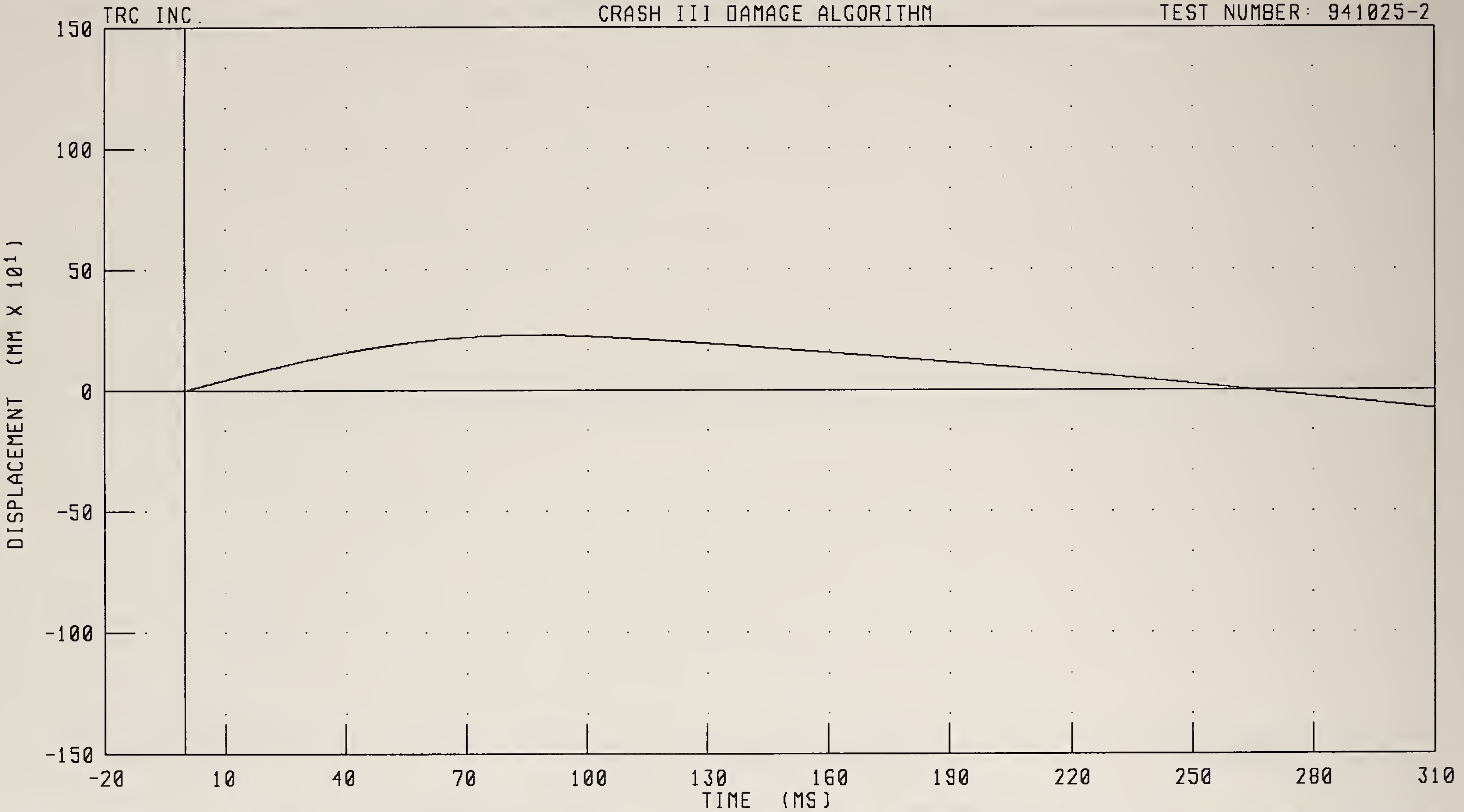
CHANNEL: RRSXG FILTER: CH. CLASS 60 PEAK DATA: 2.46 G @ 21.04 MS; -8.23 G @ 74.96 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



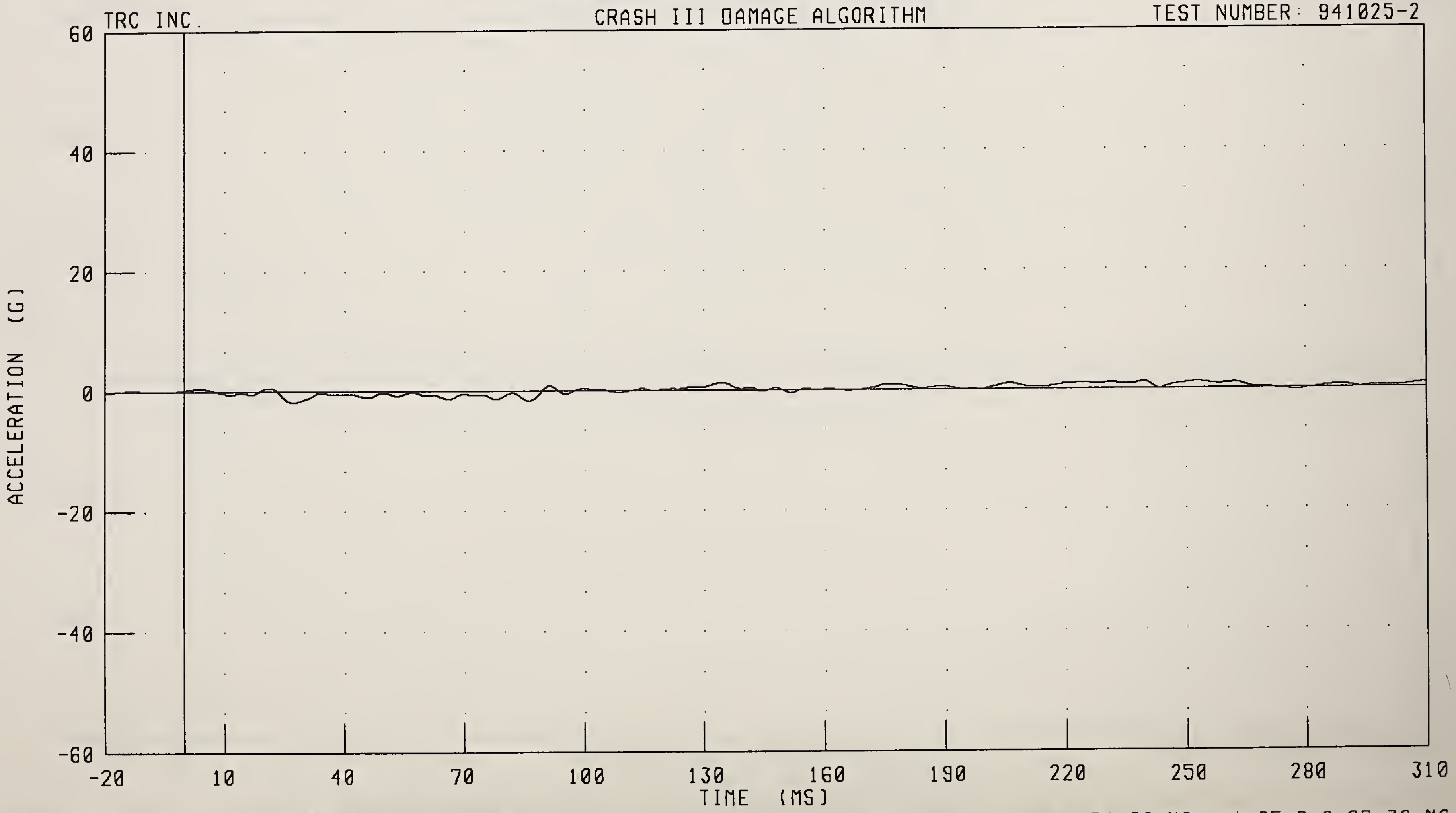
CHANNEL: RRSXV FILTER: CH. CLASS 180 PEAK DATA: 15.80 KM/H @ 0.00 MS; -6.38 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



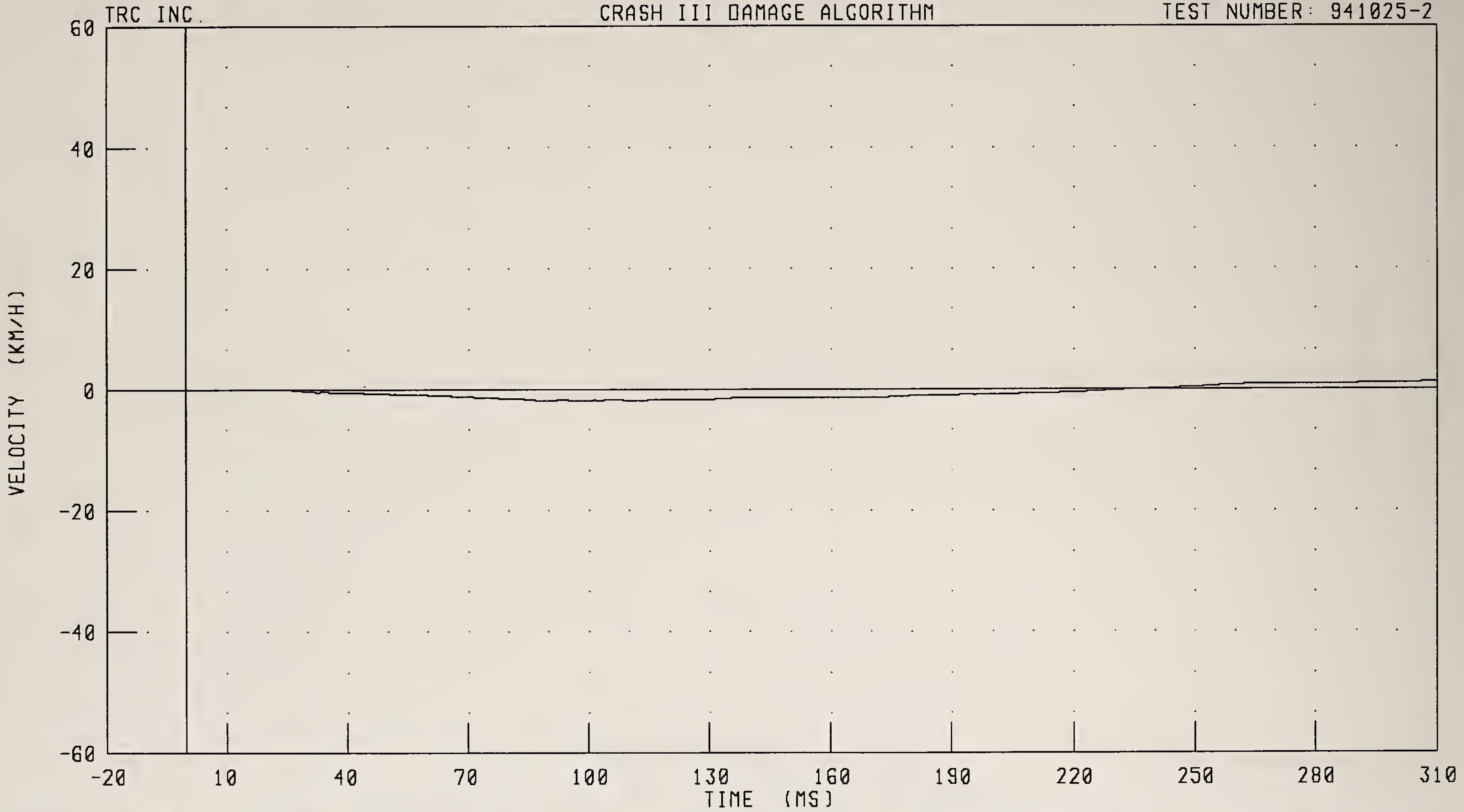
CHANNEL: RRSXD FILTER: CH. CLASS 180 PEAK DATA: 228.91 MM @ 87.04 MS; -78.24 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT REAR SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



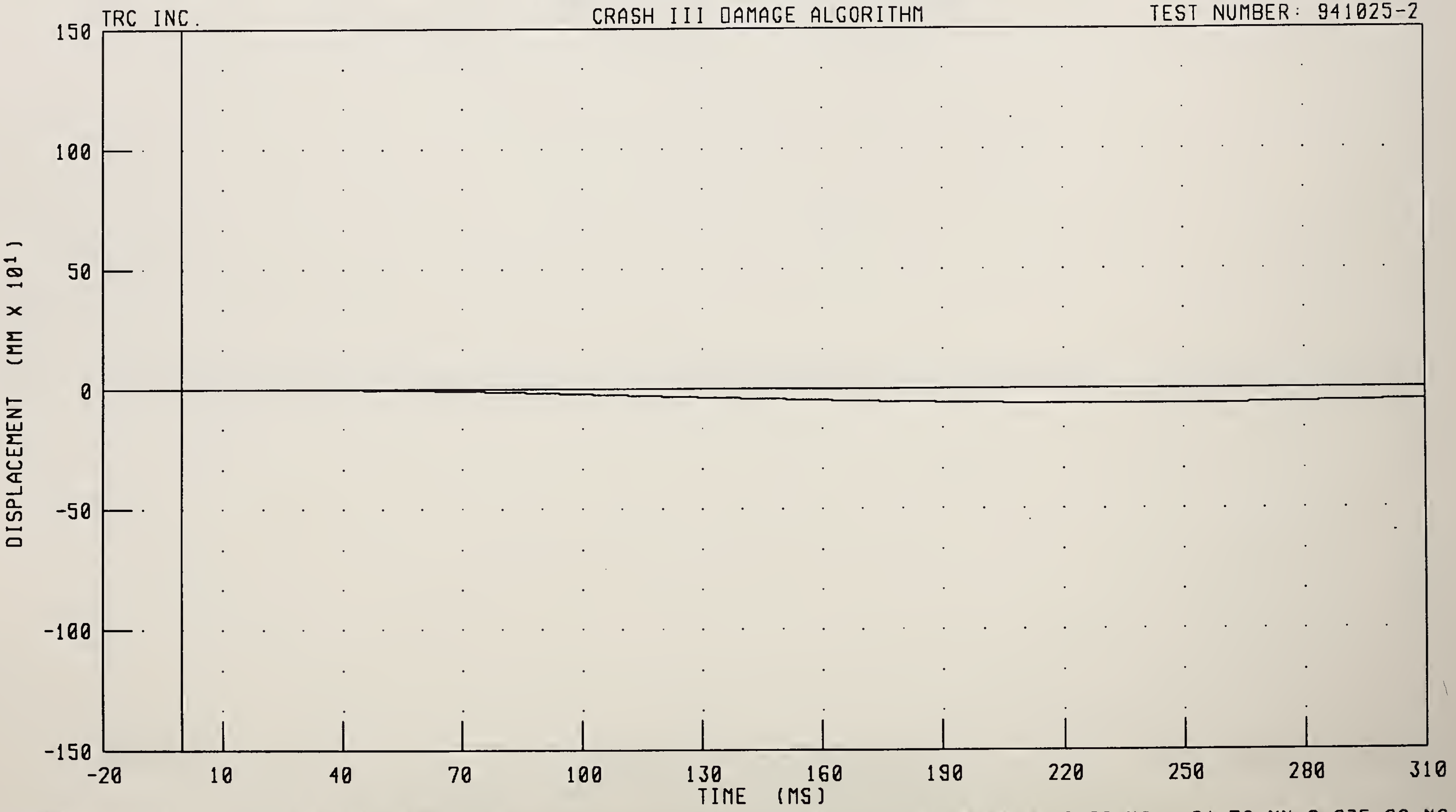
CHANNEL: RRSYG FILTER: CH. CLASS 60 PEAK DATA: 1.26 G @ 134.80 MS; -1.85 G @ 27.36 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT REAR SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: RRSYV FILTER: CH. CLASS 180 PEAK DATA: 1.22 KM/H @ 310.00 MS; -1.88 KM/H @ 89.20 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 2 OF 5
RIGHT REAR SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: RRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.25 MM @ 16.96 MS; -64.76 MM @ 235.28 MS

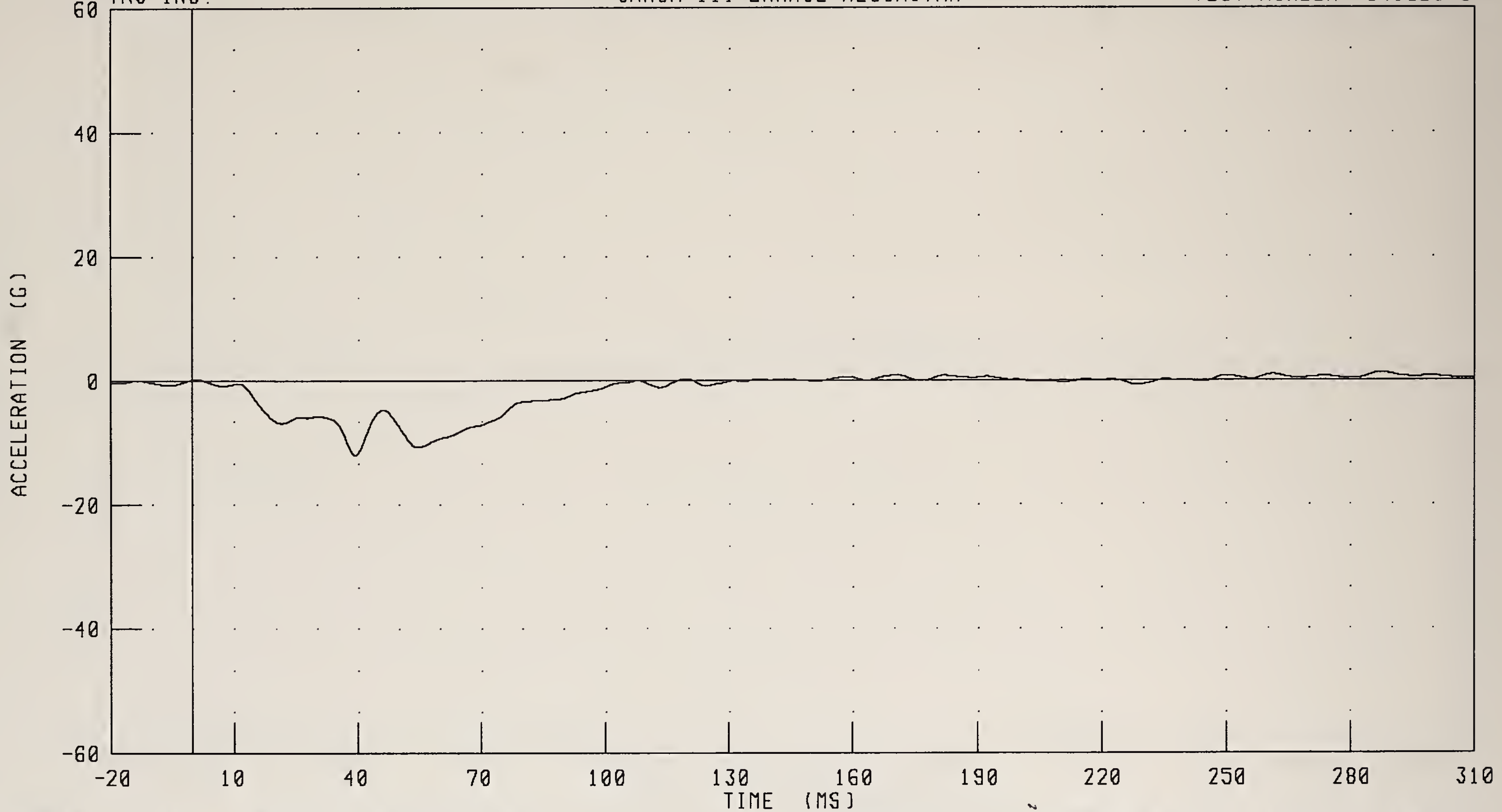
Data Plots

Test No. 941025-3

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

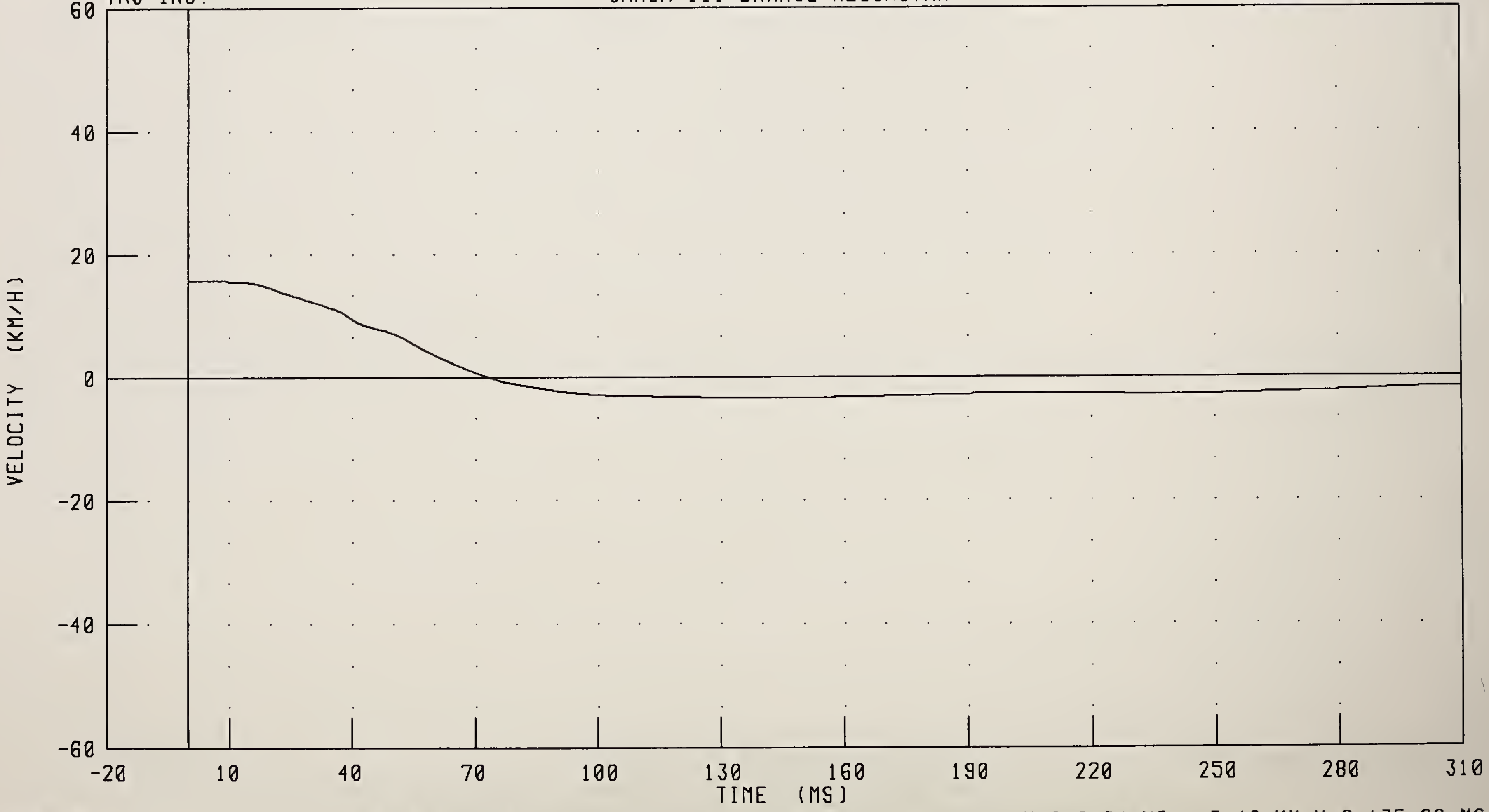


CHANNEL: VCGXG FILTER: CH. CLASS 60 PEAK DATA: 1.24 G @ 287.44 MS; -12.01 G @ 39.36 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

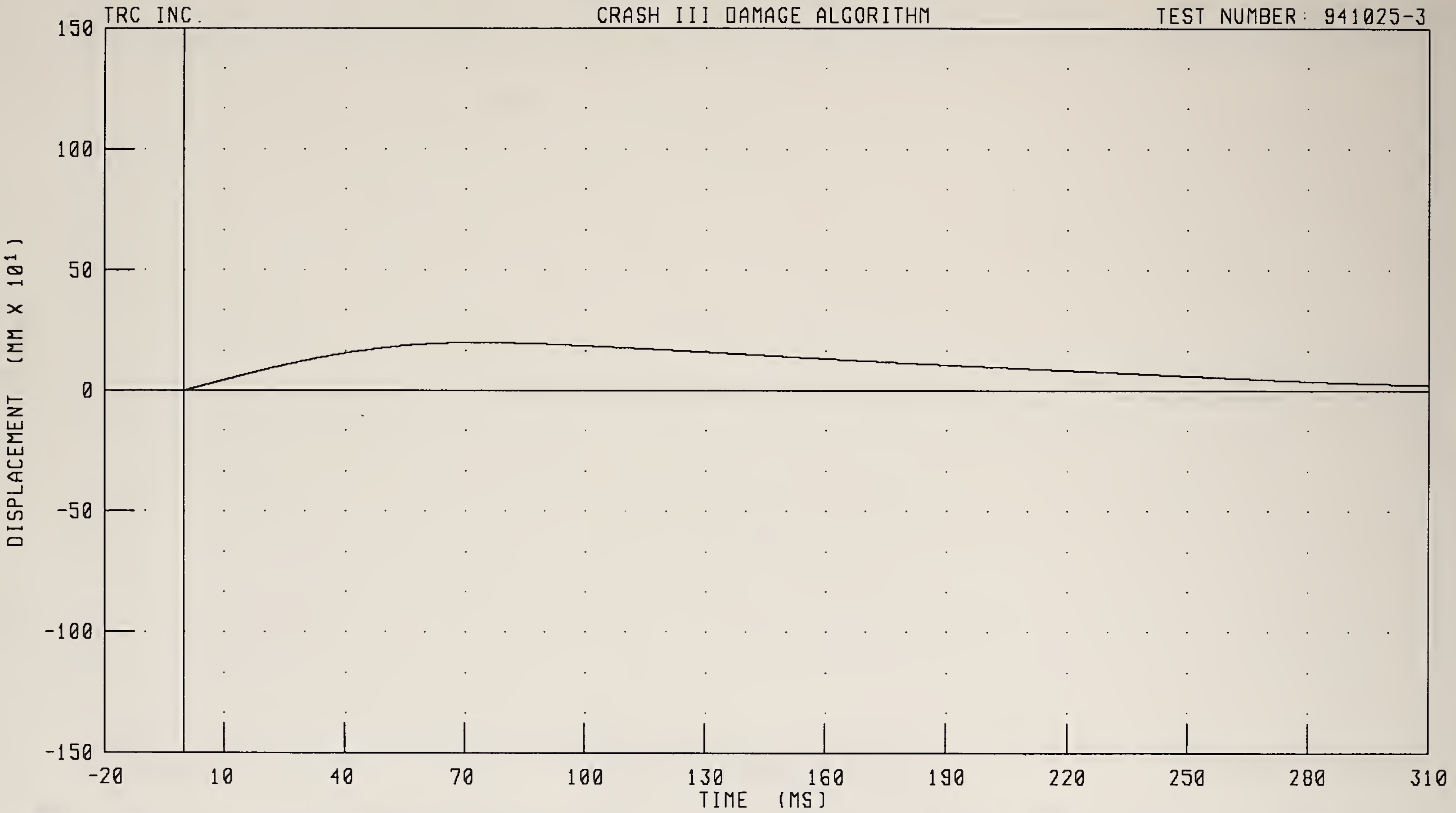
TRC INC.

TEST NUMBER: 941025-3



CHANNEL: VCGXV FILTER: CH. CLASS 180 PEAK DATA: 15.82 KM/H @ 2.24 MS; -3.40 KM/H @ 135.28 MS

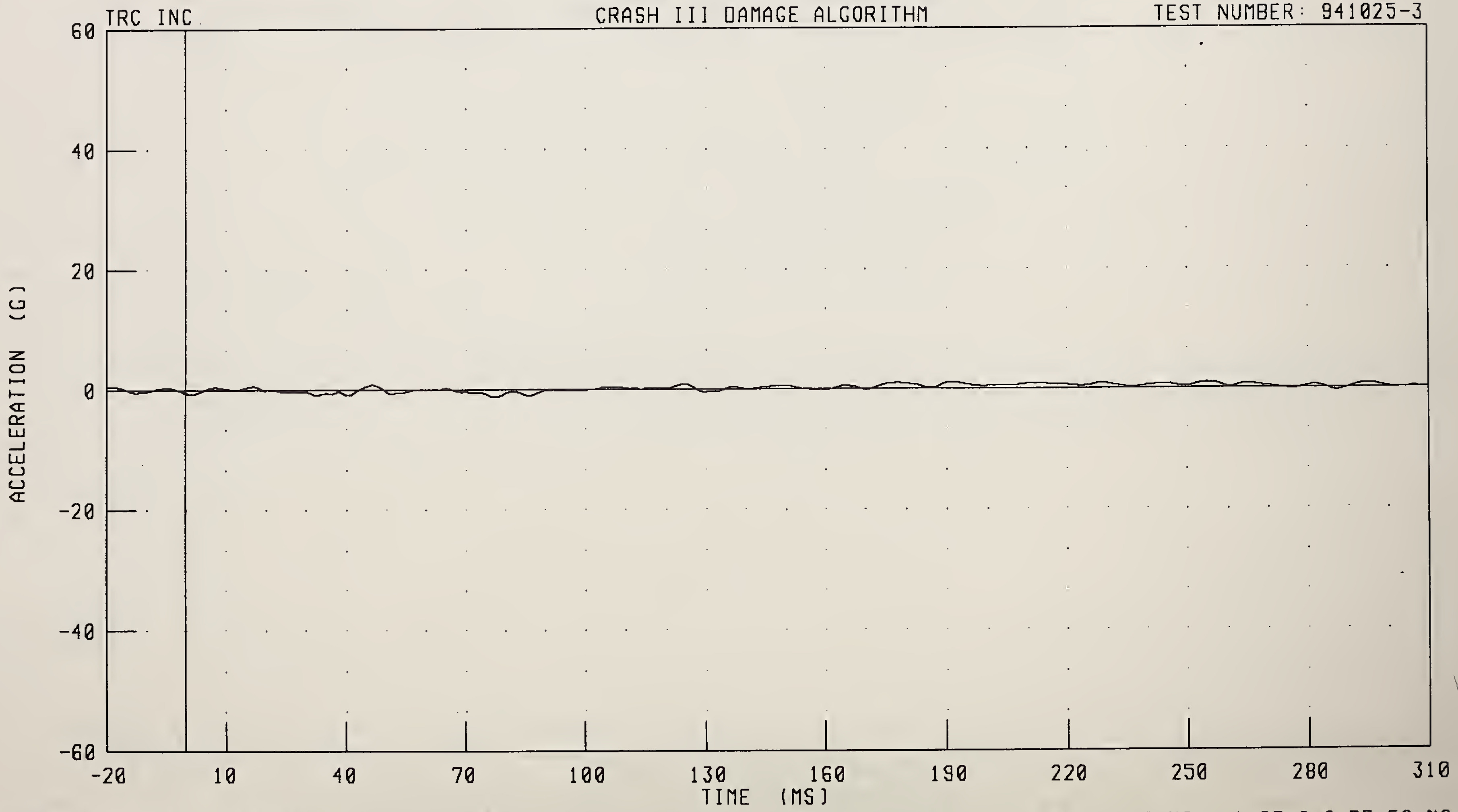
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGXD FILTER: CH. CLASS 180 PEAK DATA: 199.07 MM @ 73.36 MS; 0.00 MM @ 0.00 MS

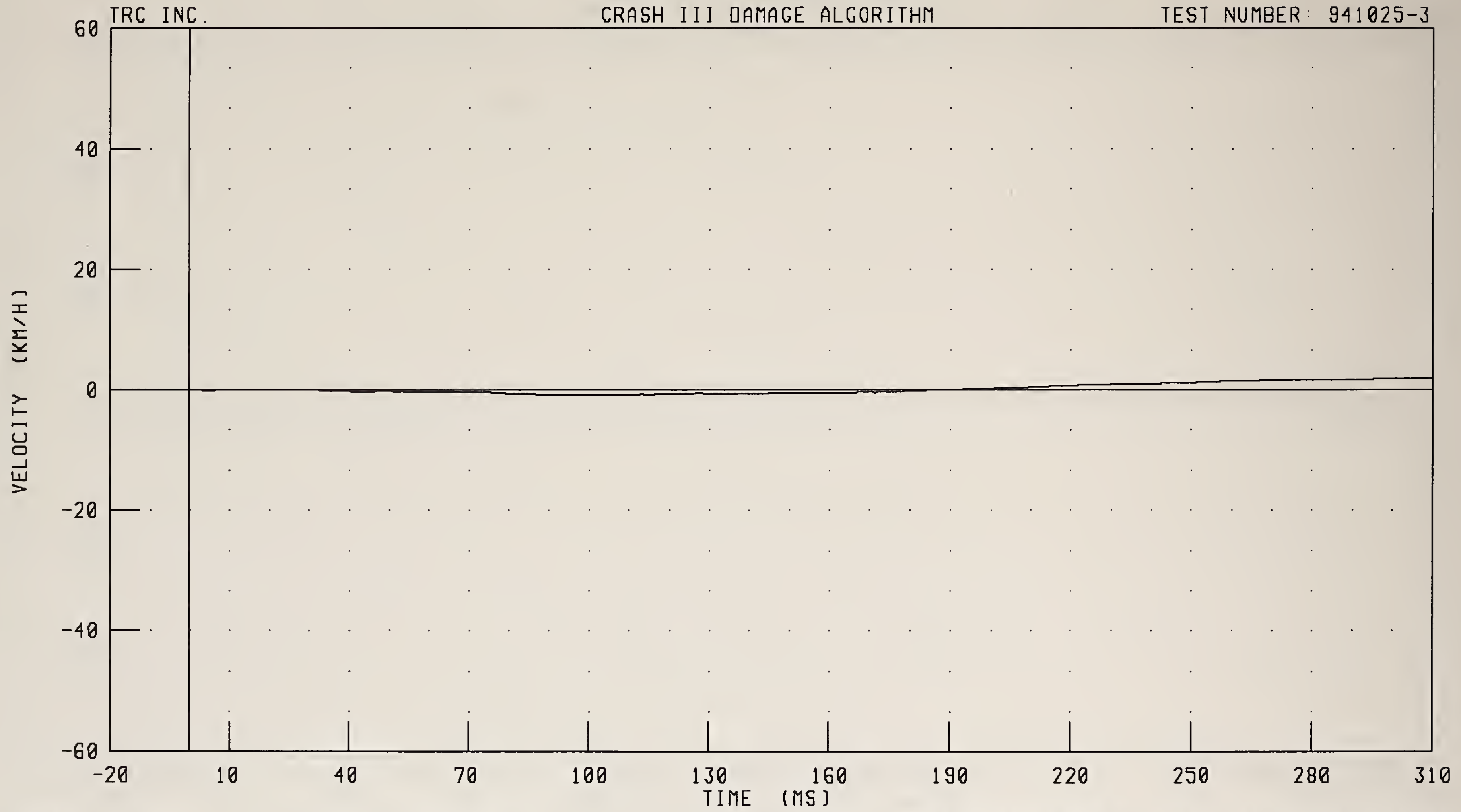
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-3



CHANNEL: VCGYG FILTER: CH. CLASS 60 PEAK DATA: 1.03 G @ 191.12 MS; -1.23 G @ 77.52 MS

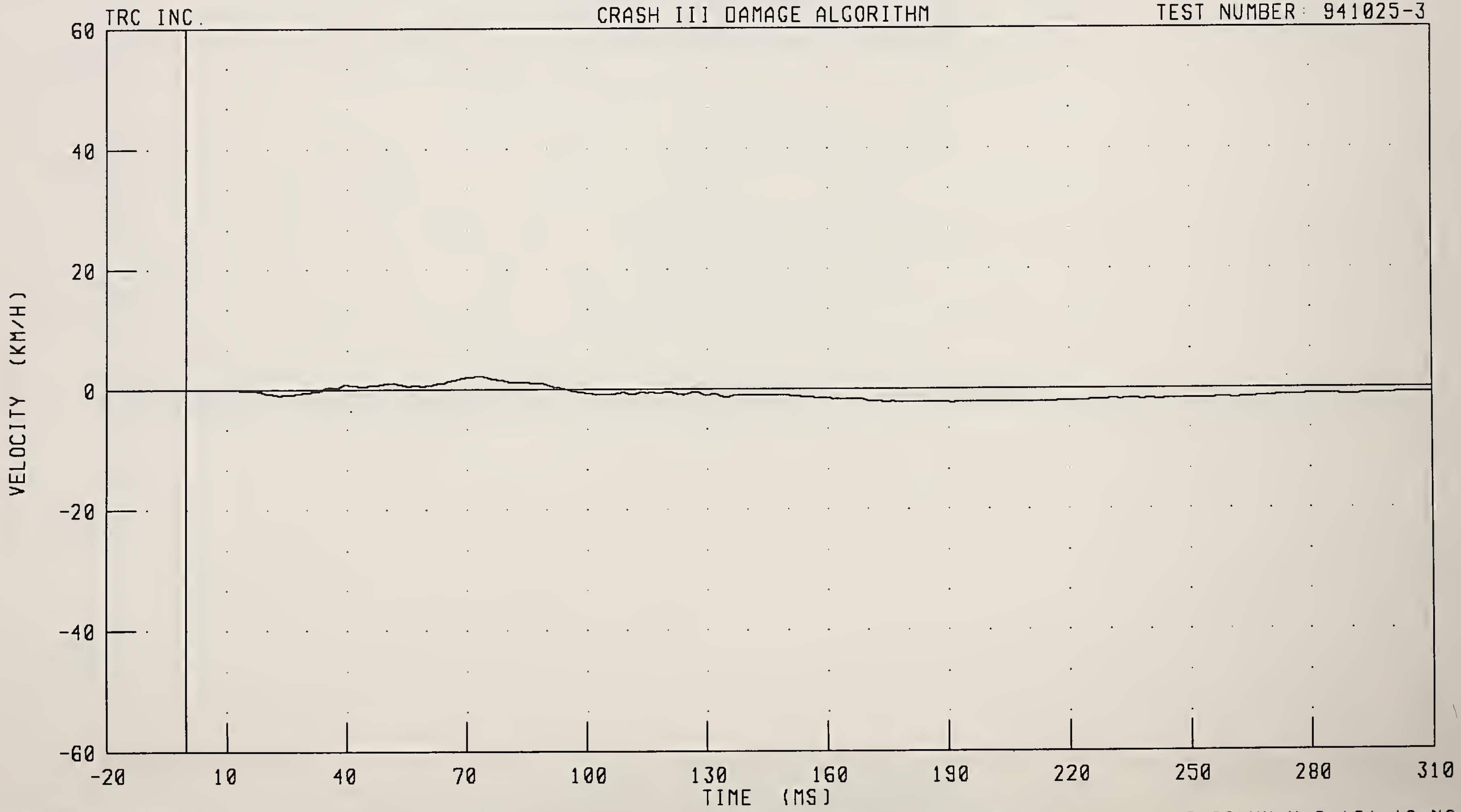
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGYV FILTER: CH. CLASS 180 PEAK DATA: 1.90 KM/H @ 310.00 MS; -0.87 KM/H @ 103.92 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG Z-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-3

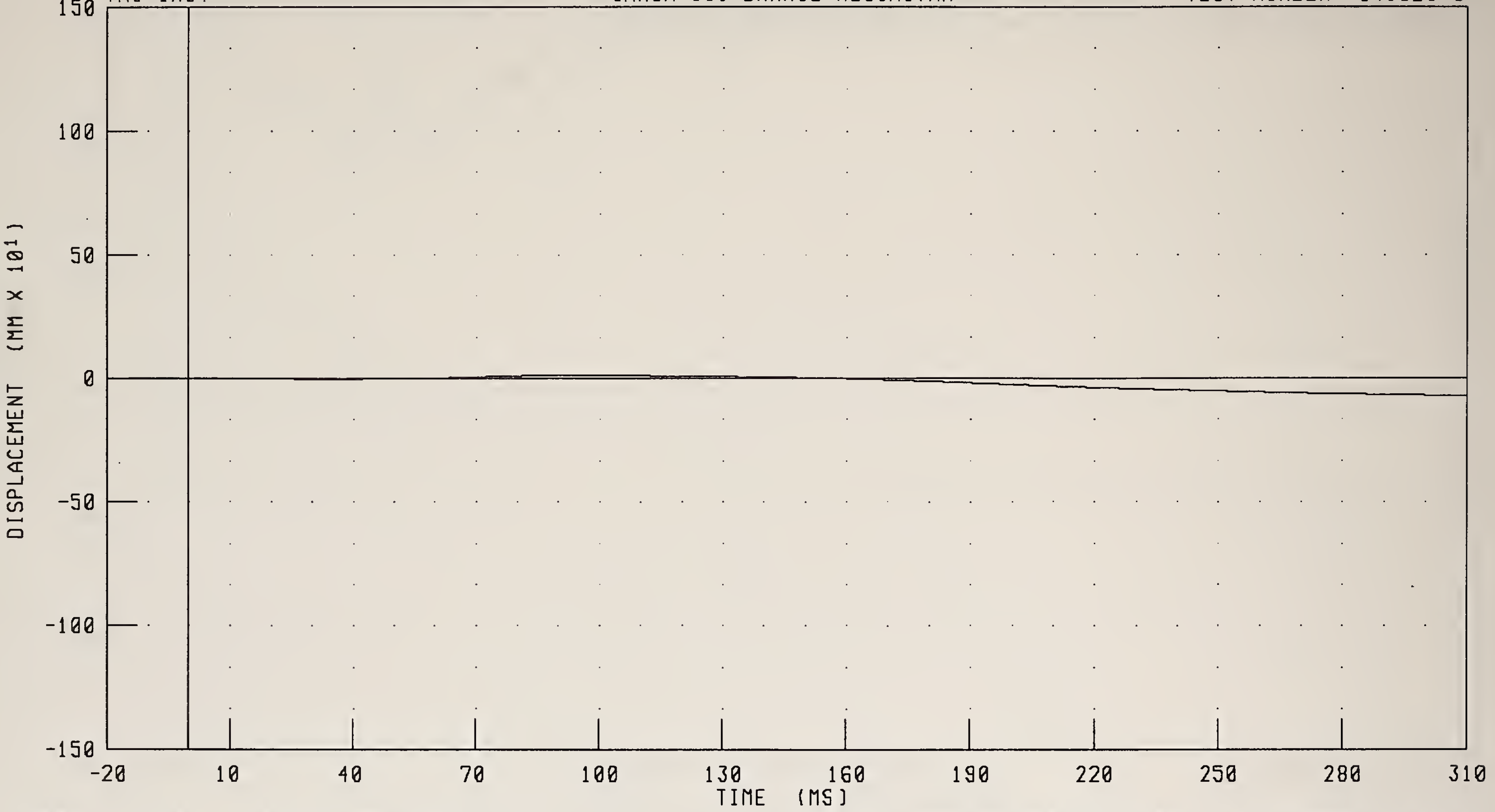


CHANNEL: VCGZV FILTER: CH. CLASS 180 PEAK DATA: 2.20 KM/H @ 73.28 MS; -2.29 KM/H @ 191.12 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG Z-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

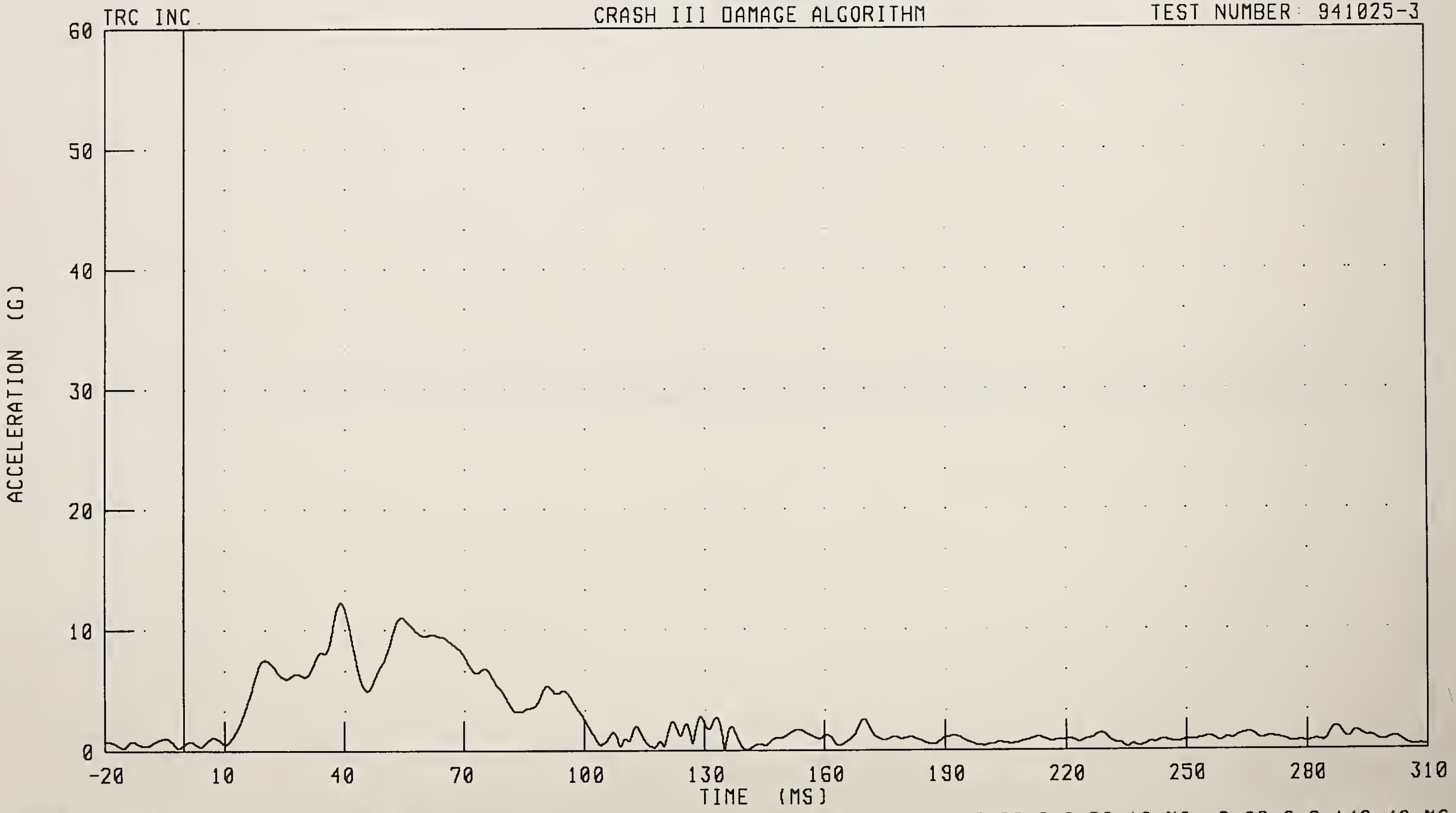
TRC INC.

TEST NUMBER: 941025-3



CHANNEL: VCGZD FILTER: CH. CLASS 180 PEAK DATA: 13.92 MM @ 94.96 MS; -71.91 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG RESULTANT ACCELERATION
CRASH III DAMAGE ALGORITHM

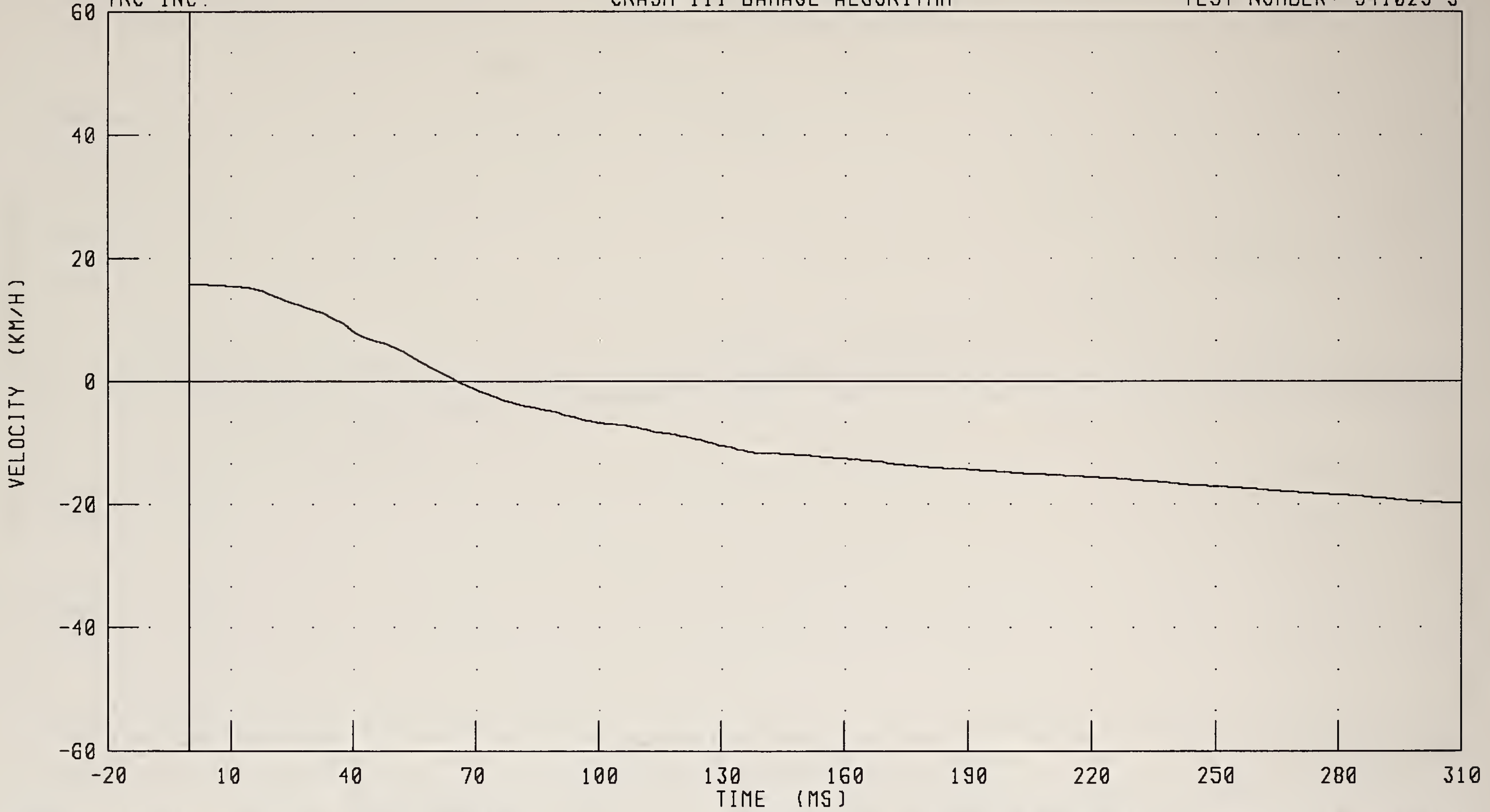


CHANNEL: VCGRG FILTER: CH. CLASS 60 PEAK DATA: 12.28 G @ 39.12 MS; 0.09 G @ 140.40 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG RESULTANT VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

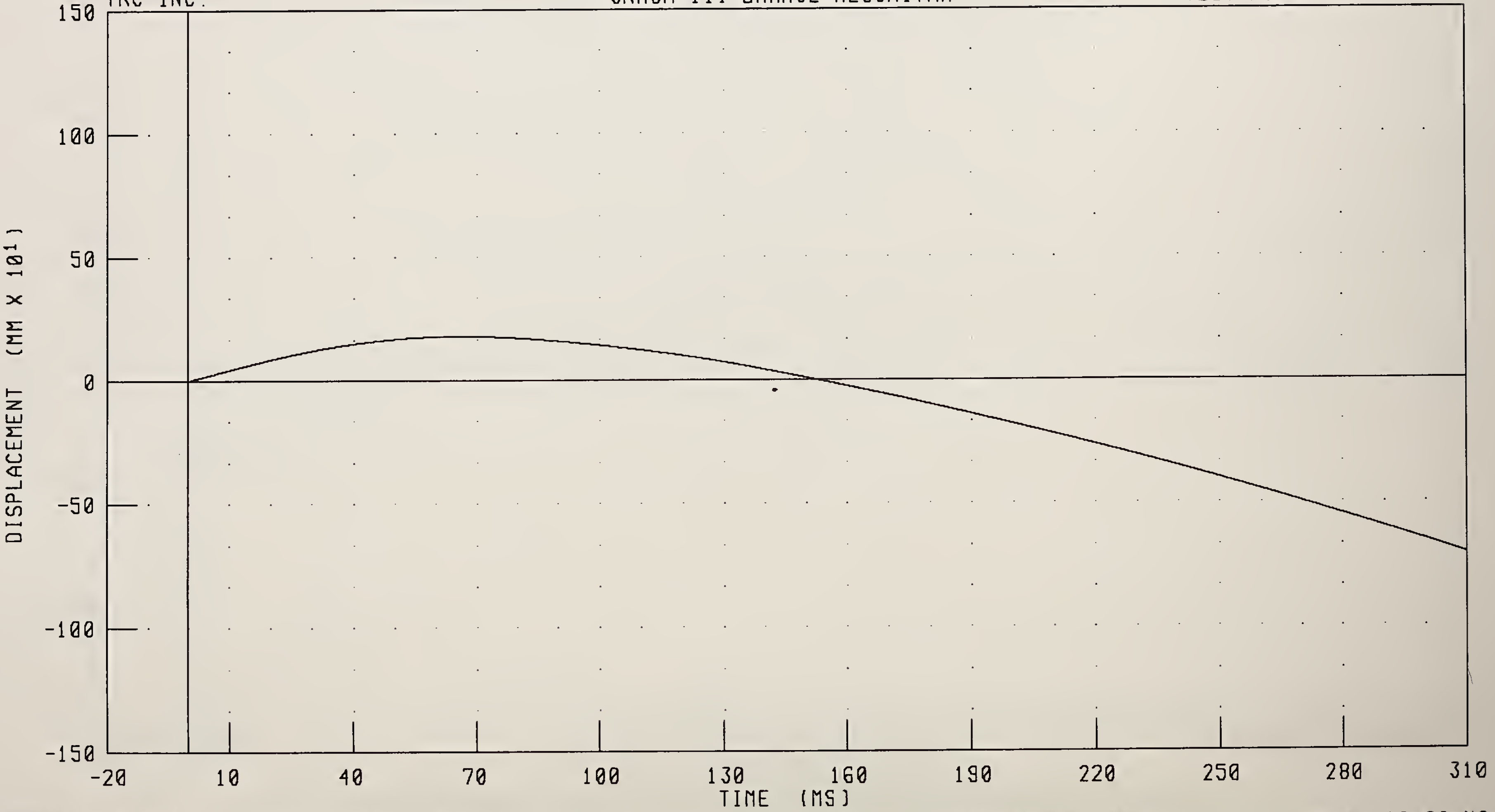


CHANNEL: VCGRV   FILTER: CH. CLASS 180   PEAK DATA: 15.80 KM/H @ 0.00 MS; -19.82 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
VEHICLE CG RESULTANT DISPLACEMENT
CRASH III DAMAGE ALGORITHM

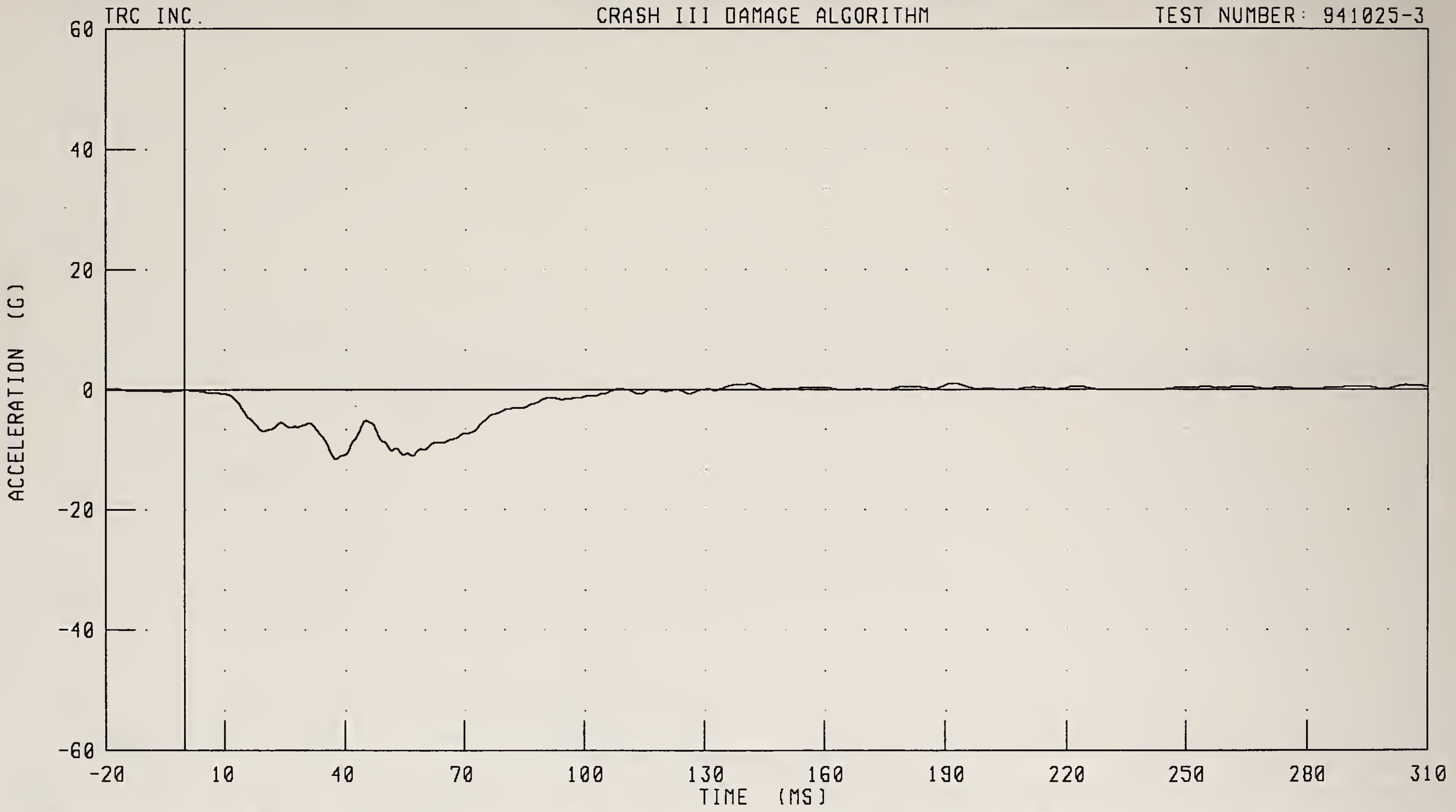
TRC INC.

TEST NUMBER: 941025-3



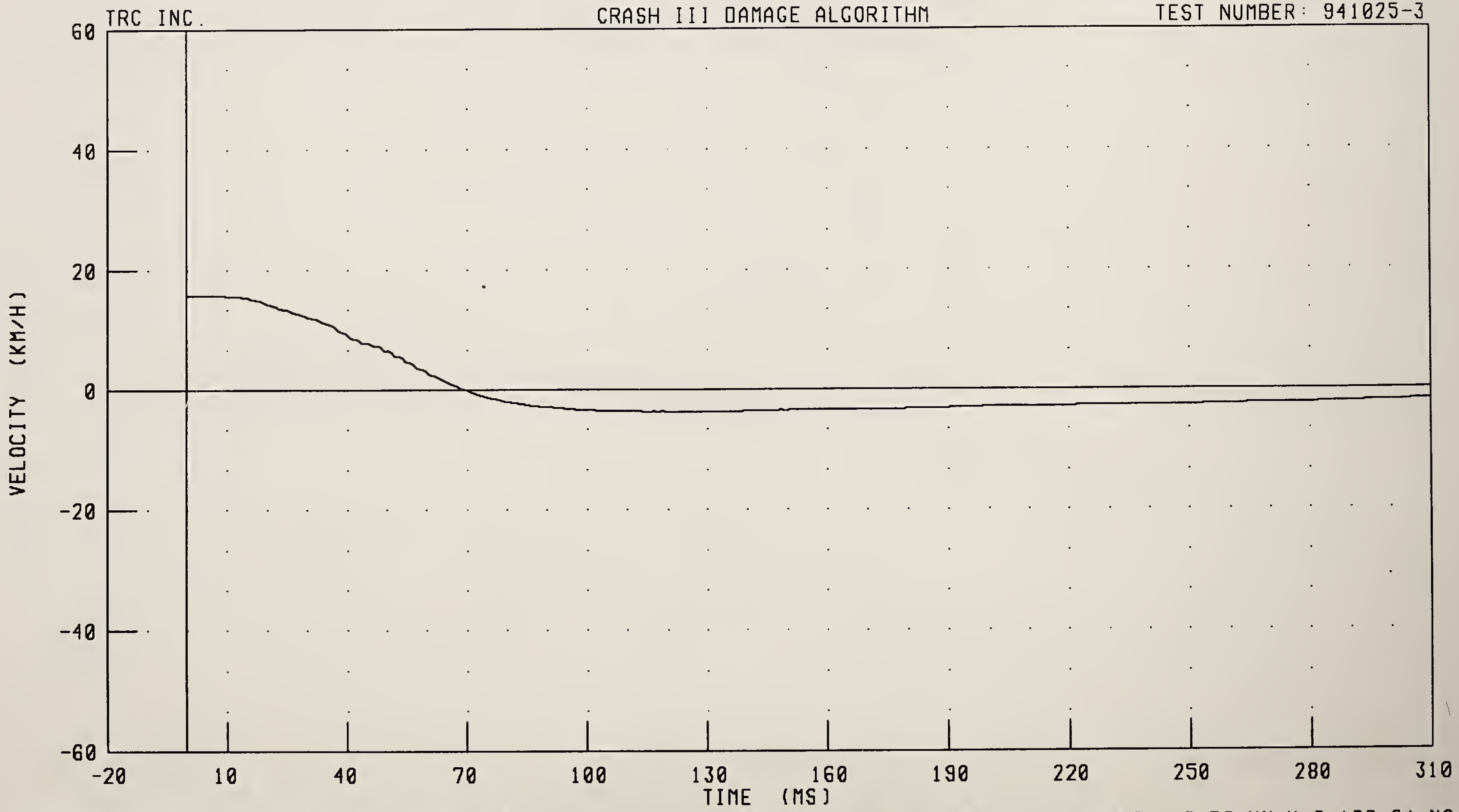
CHANNEL: VCGRD FILTER: CH. CLASS 180 PEAK DATA: 179.40 MM @ 65.44 MS; -707.07 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



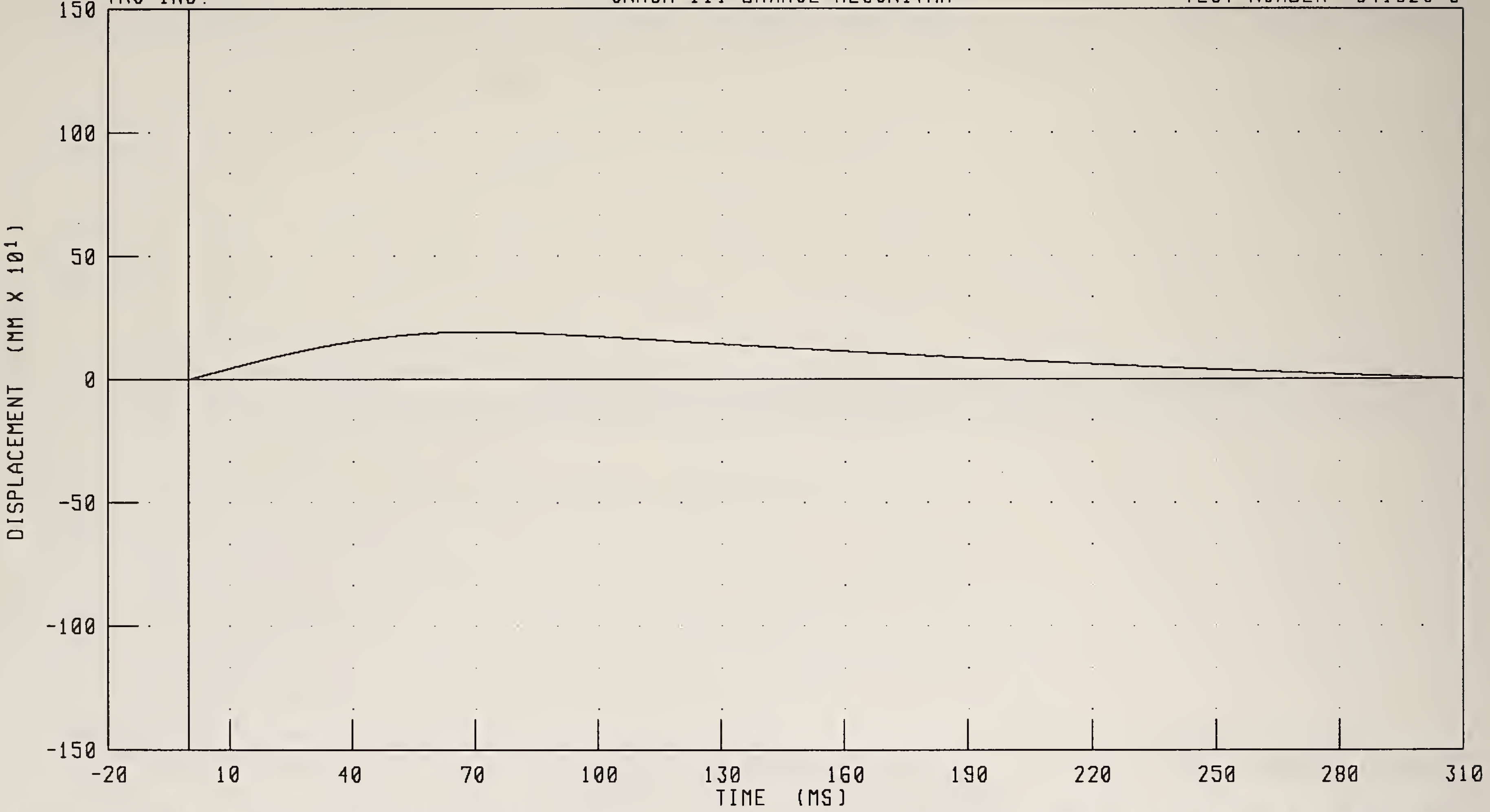
CHANNEL: LFSXG FILTER: CH. CLASS 60 PEAK DATA: 1.06 G @ 191.84 MS; -11.52 G @ 37.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: LFSXV FILTER: CH. CLASS 180 PEAK DATA: 15.80 KM/H @ 0.40 MS; -3.78 KM/H @ 133.04 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT FRONT SILL X-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-3

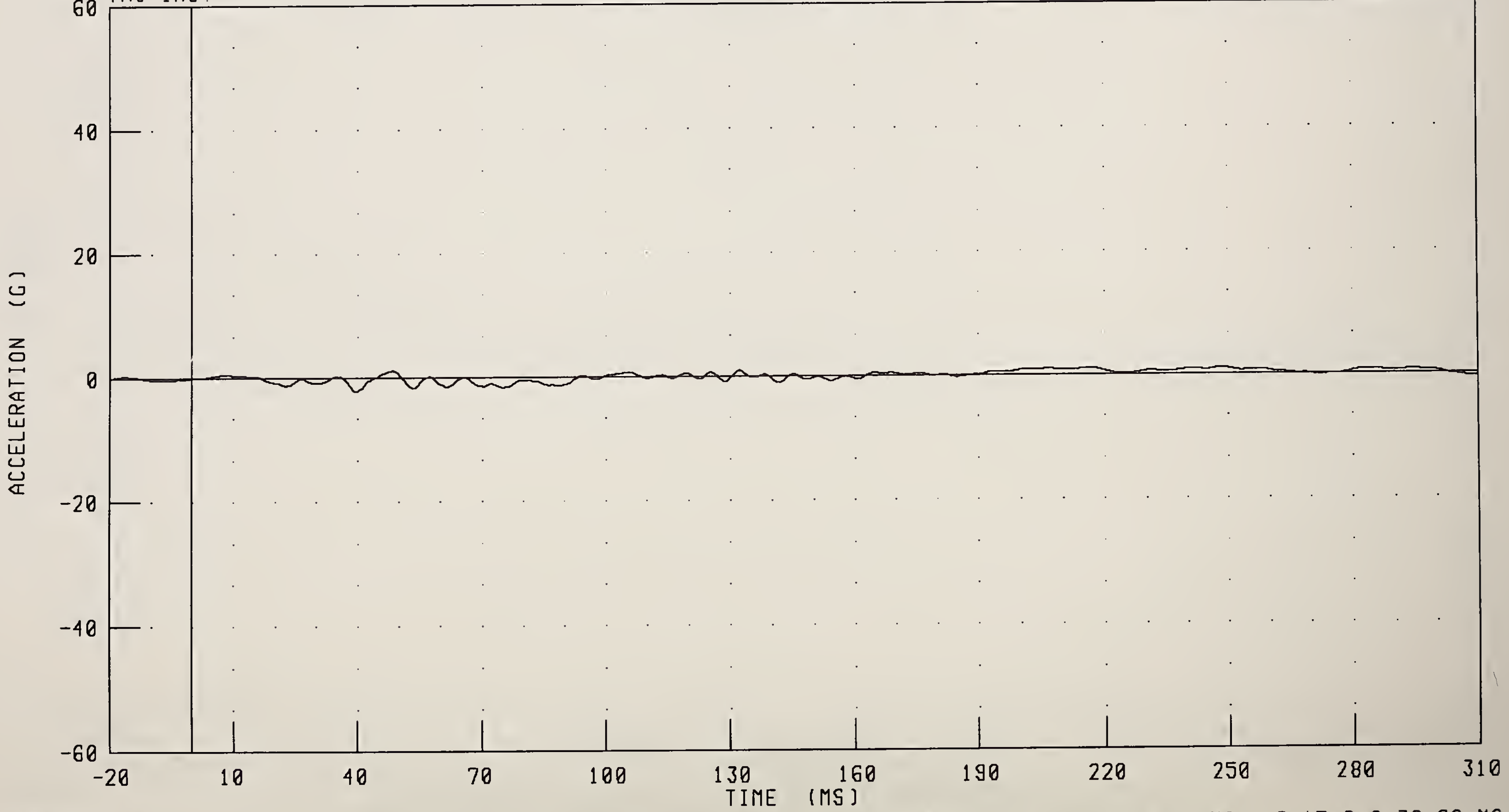


CHANNEL: LFSXD FILTER: CH. CLASS 180 PEAK DATA: 191.91 MM @ 69.84 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT FRONT SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

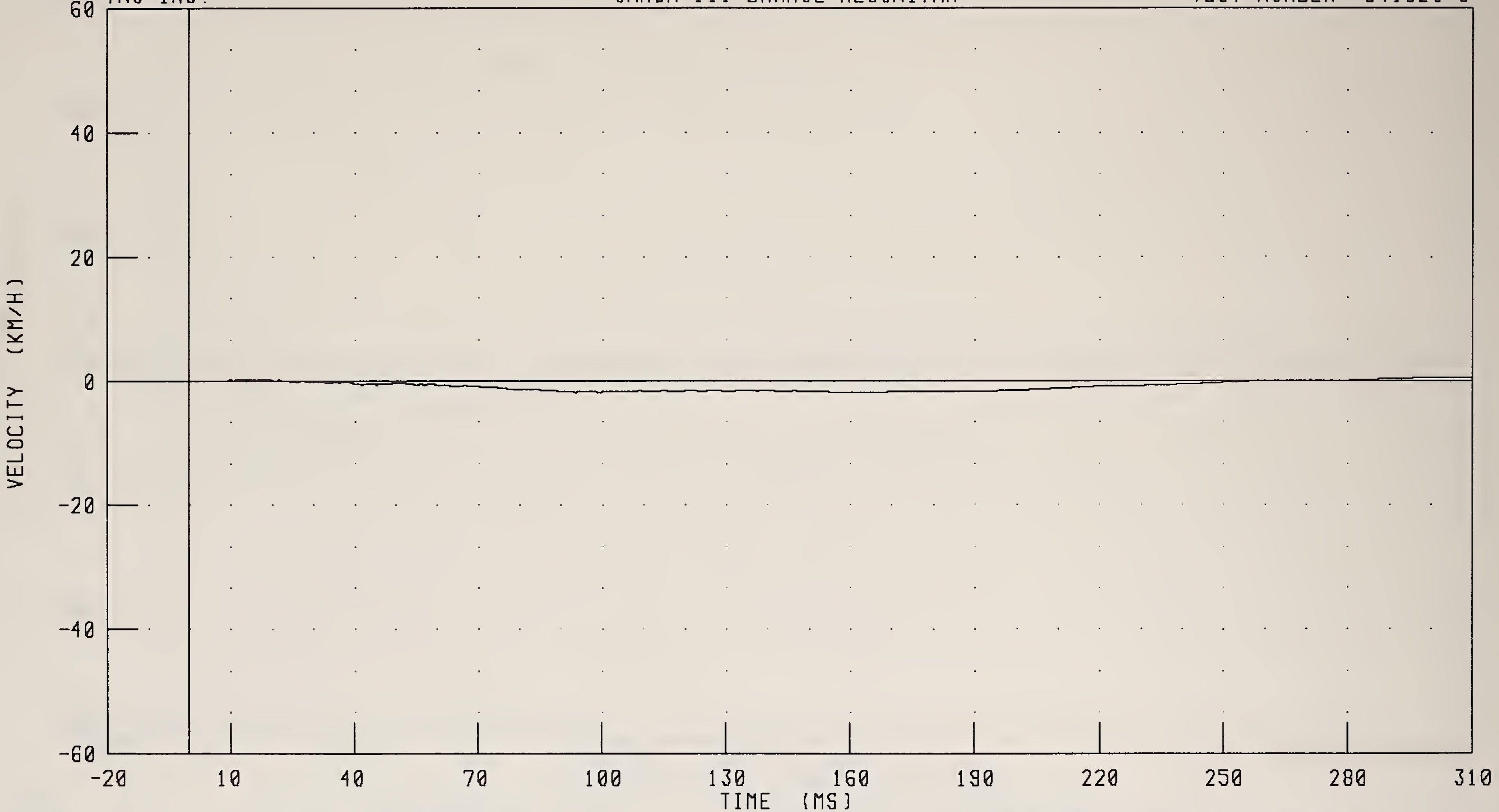


CHANNEL: LFSYG FILTER: CH. CLASS 60 PEAK DATA: 1.12 G @ 48.56 MS; -2.17 G @ 39.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

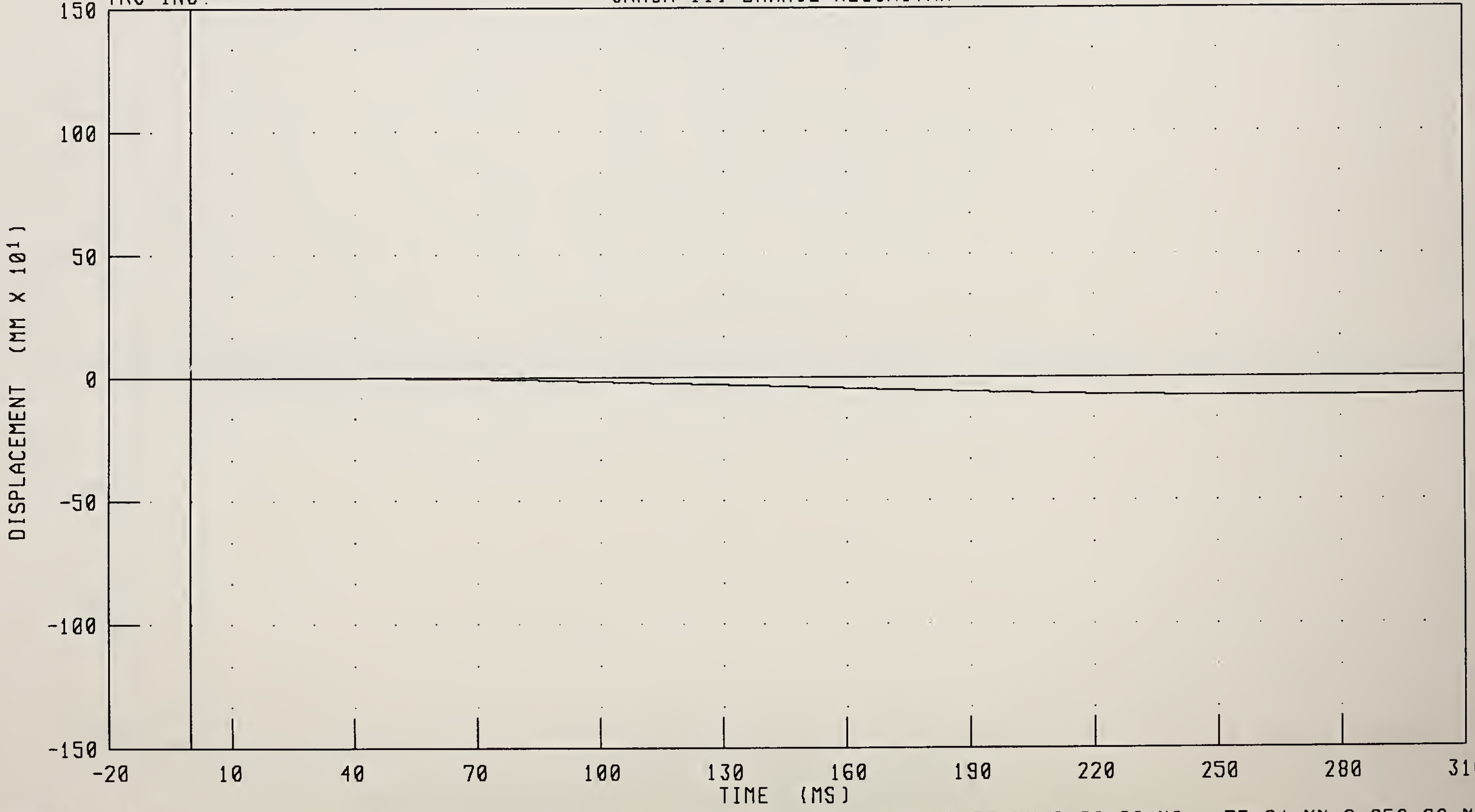


CHANNEL: LFSYV FILTER: CH. CLASS 180 PEAK DATA: 0.54 KM/H @ 302.00 MS; -1.88 KM/H @ 162.24 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT FRONT SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

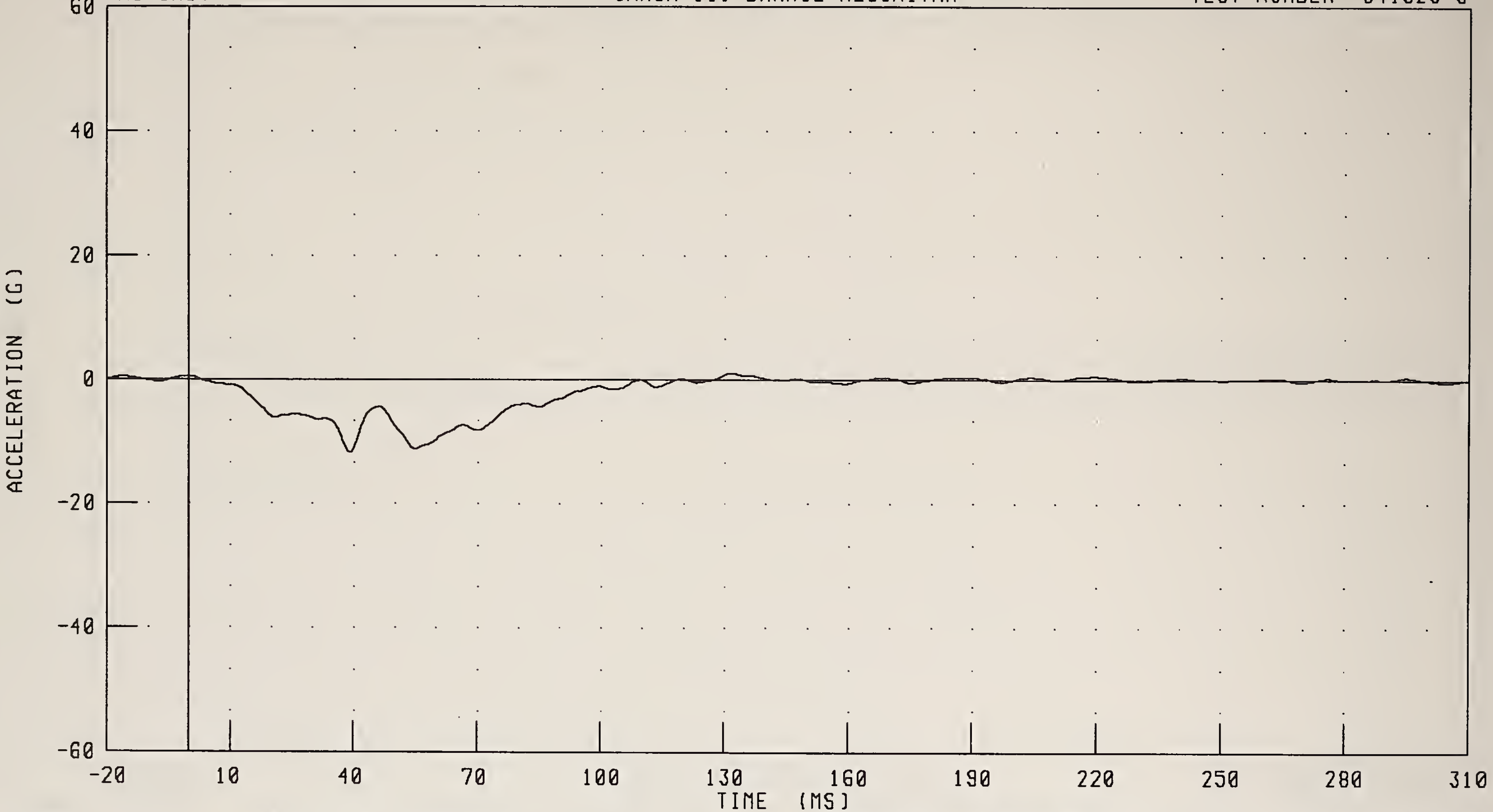


CHANNEL: LFSYD   FILTER: CH. CLASS 180   PEAK DATA: 0.53 MM @ 22.80 MS; -75.64 MM @ 259.28 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

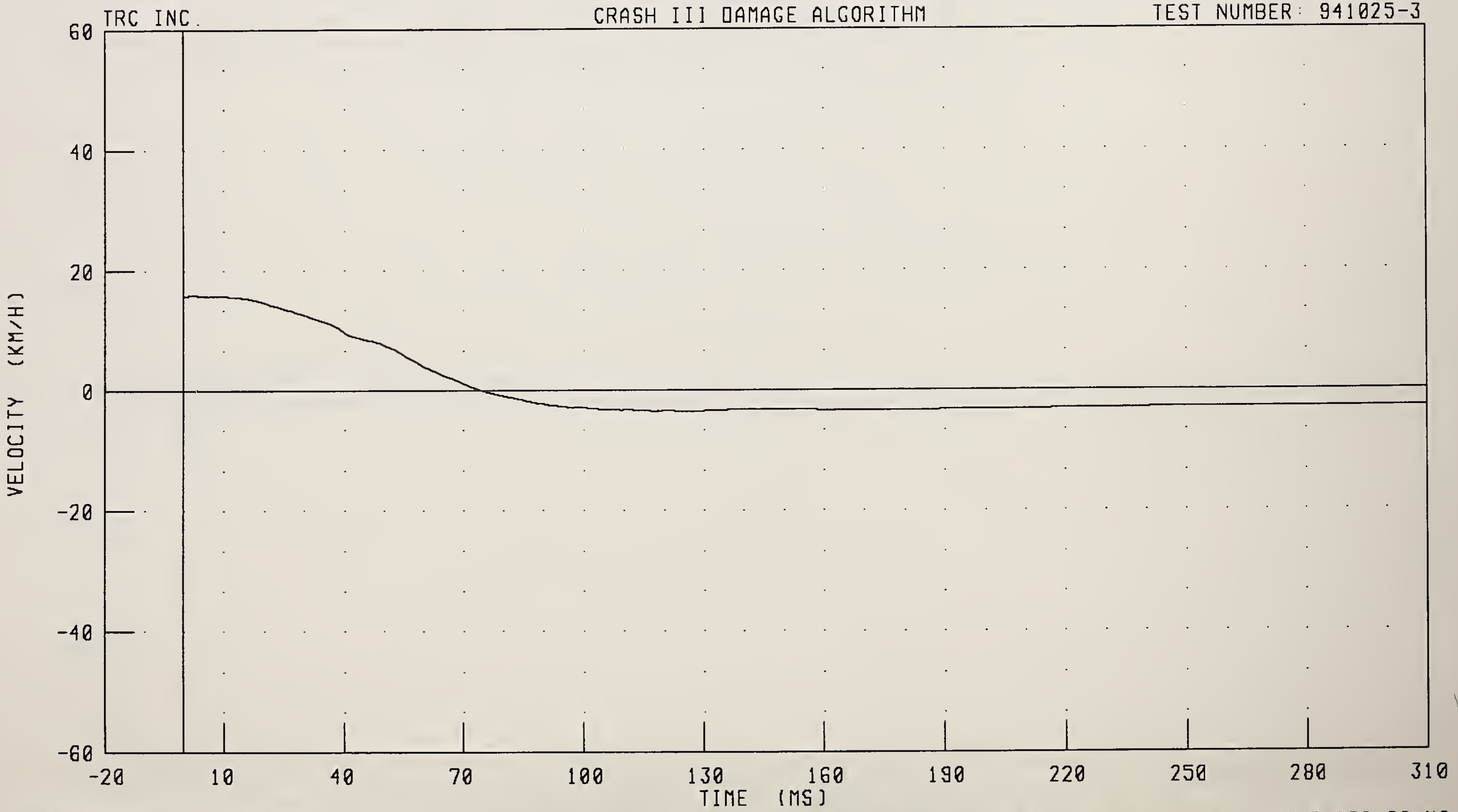
TRC INC.

TEST NUMBER: 941025-3



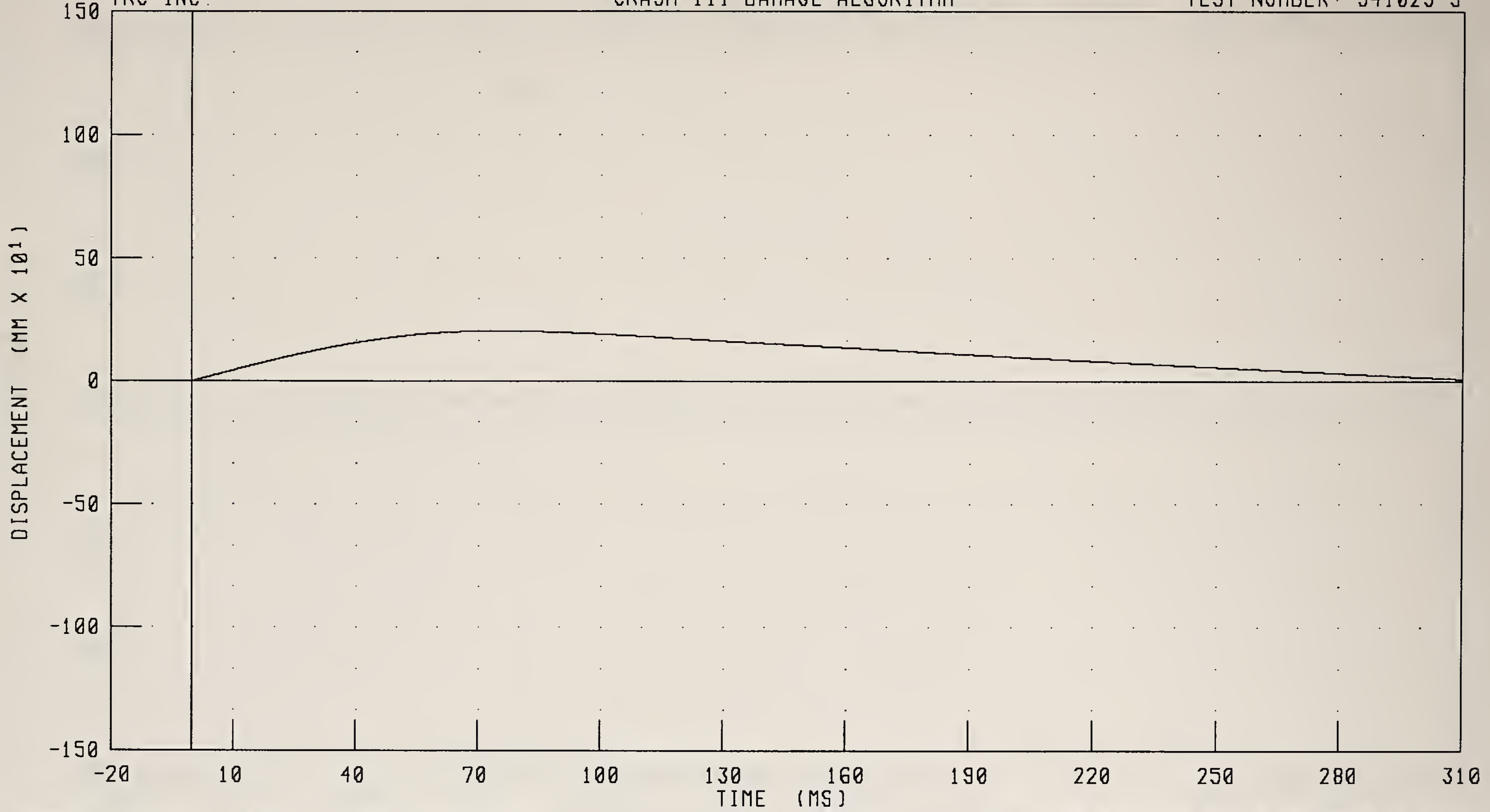
CHANNEL: RFSXG FILTER: CH. CLASS 60 PEAK DATA: 1.03 G @ 131.84 MS; -11.75 G @ 39.20 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



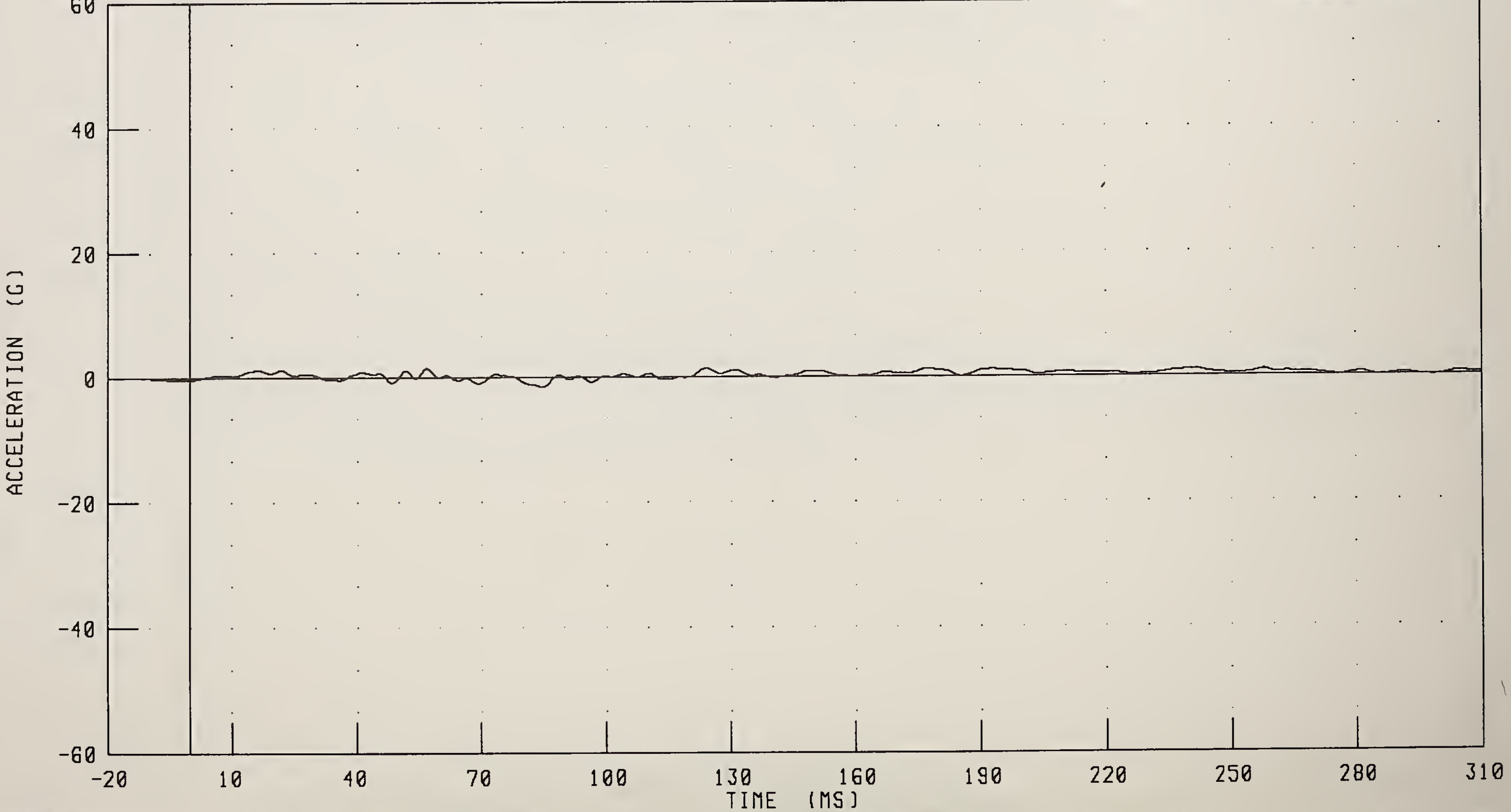
CHANNEL: RFSXV FILTER: CH. CLASS 180 PEAK DATA: 15.86 KM/H @ 2.24 MS; -3.51 KM/H @ 126.96 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT FRONT SILL X-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-3



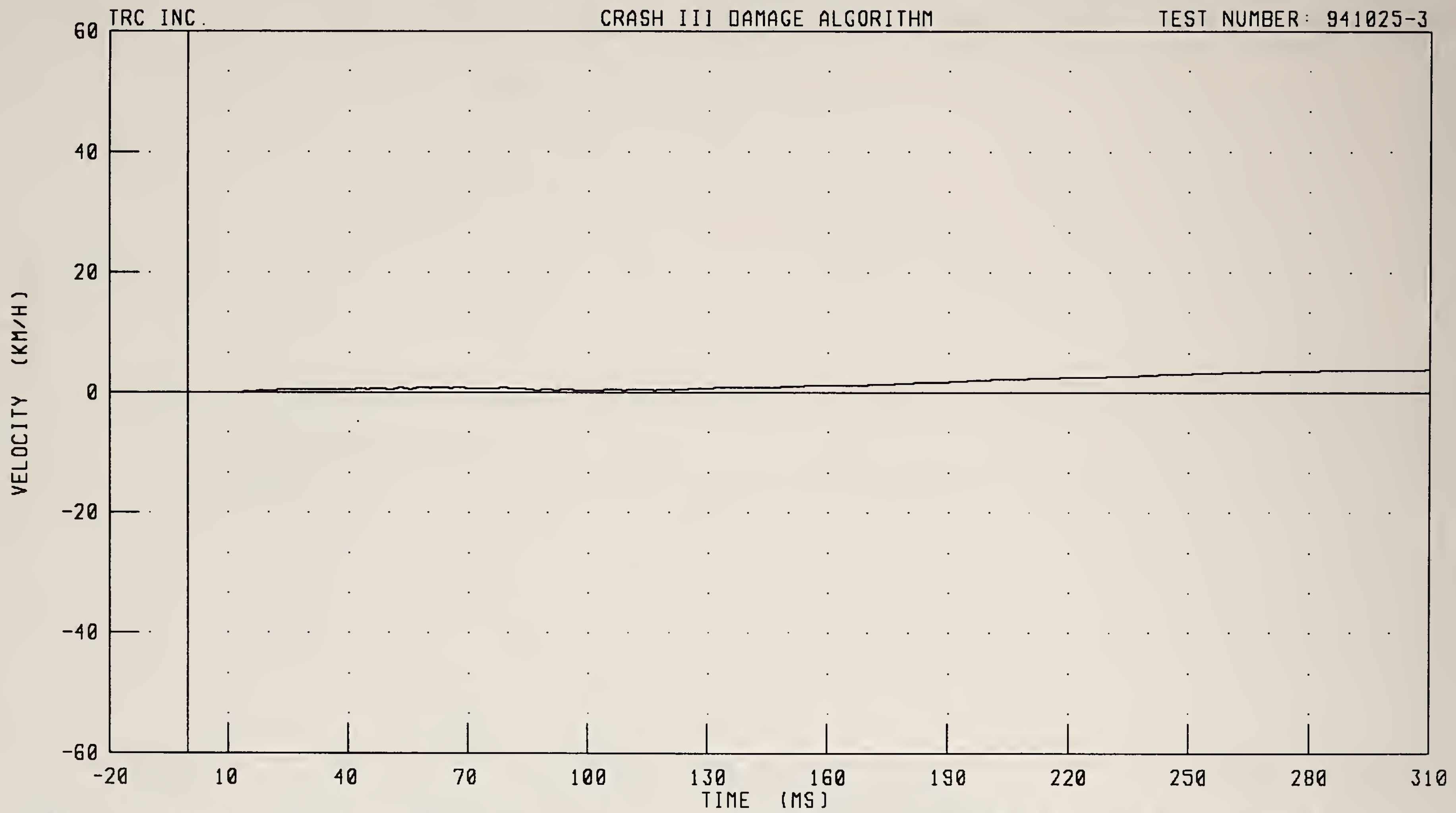
CHANNEL: RFSXD FILTER: CH. CLASS 180 PEAK DATA: 204.38 MM @ 74.56 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT FRONT SILL Y-AXIS ACCELERATION
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-3



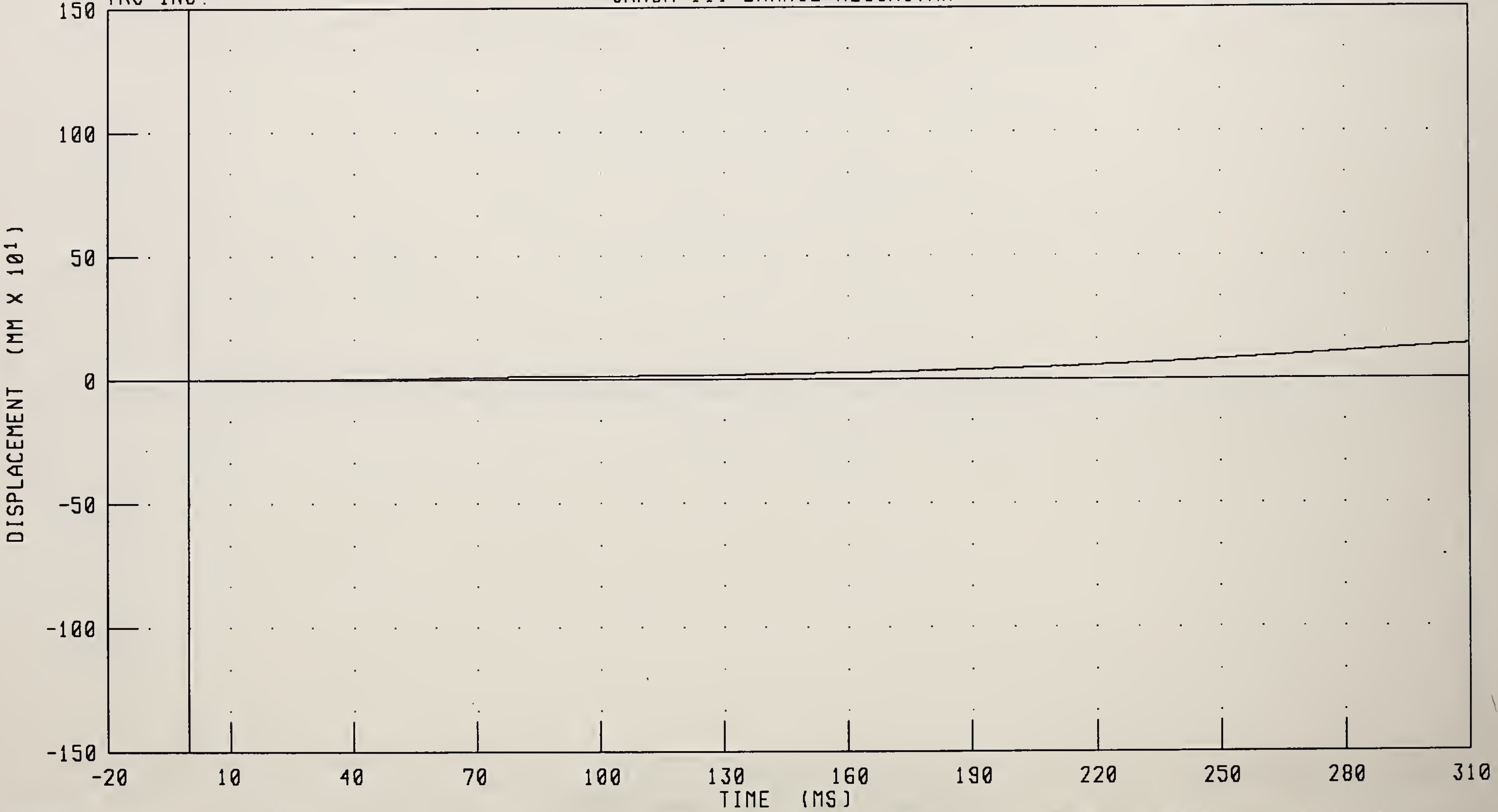
CHANNEL: RFSYG FILTER: CH. CLASS 60 PEAK DATA: 1.45 G @ 56.88 MS; -1.55 G @ 84.80 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: RFSYV FILTER: CH. CLASS 180 PEAK DATA: 3.83 KM/H @ 310.00 MS; -0.03 KM/H @ 2.16 MS

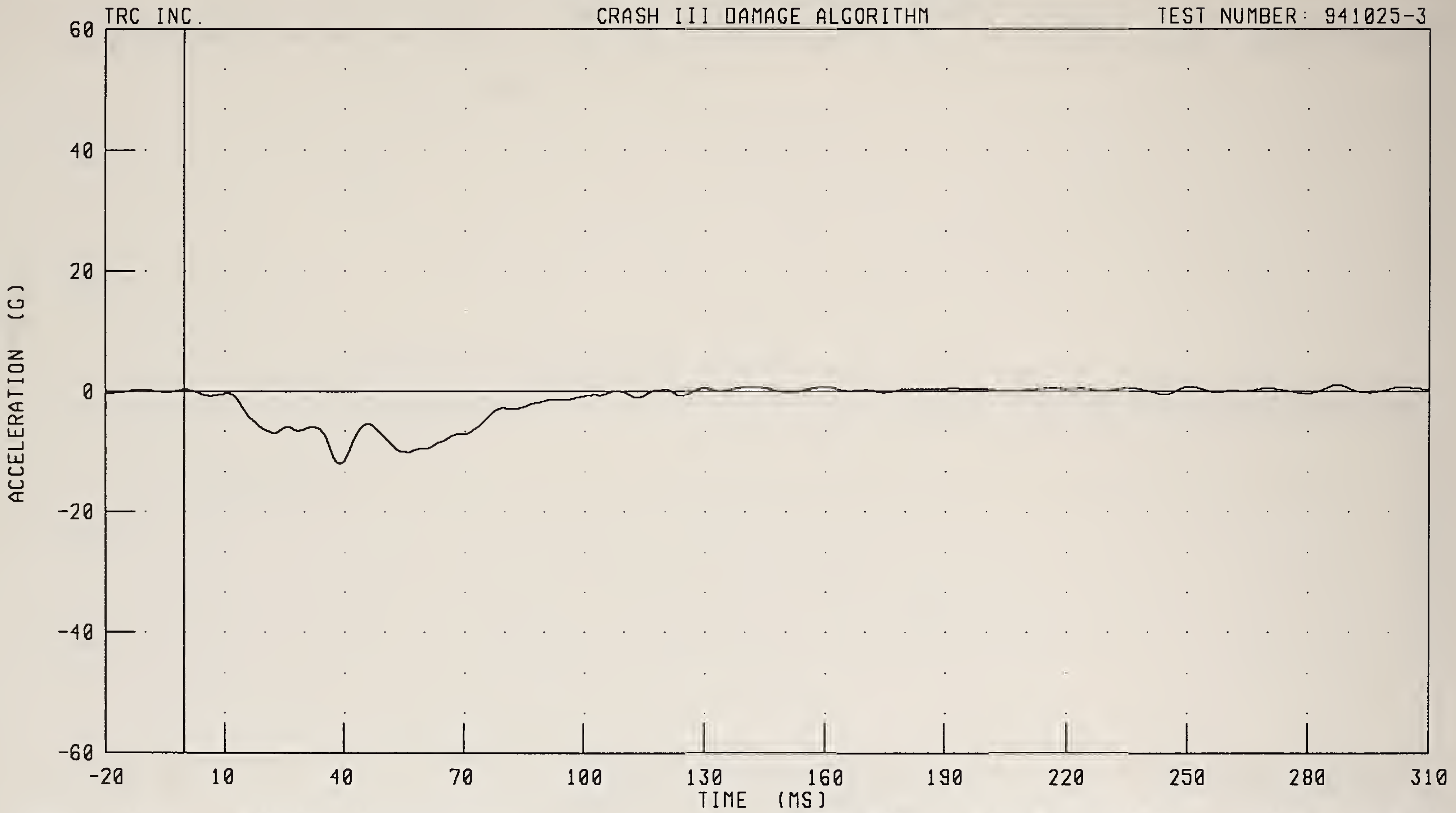
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT FRONT SILL Y-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-3



CHANNEL: RFSYD FILTER: CH. CLASS 180 PEAK DATA: 138.66 MM @ 310.00 MS; -0.03 MM @ 6.64 MS

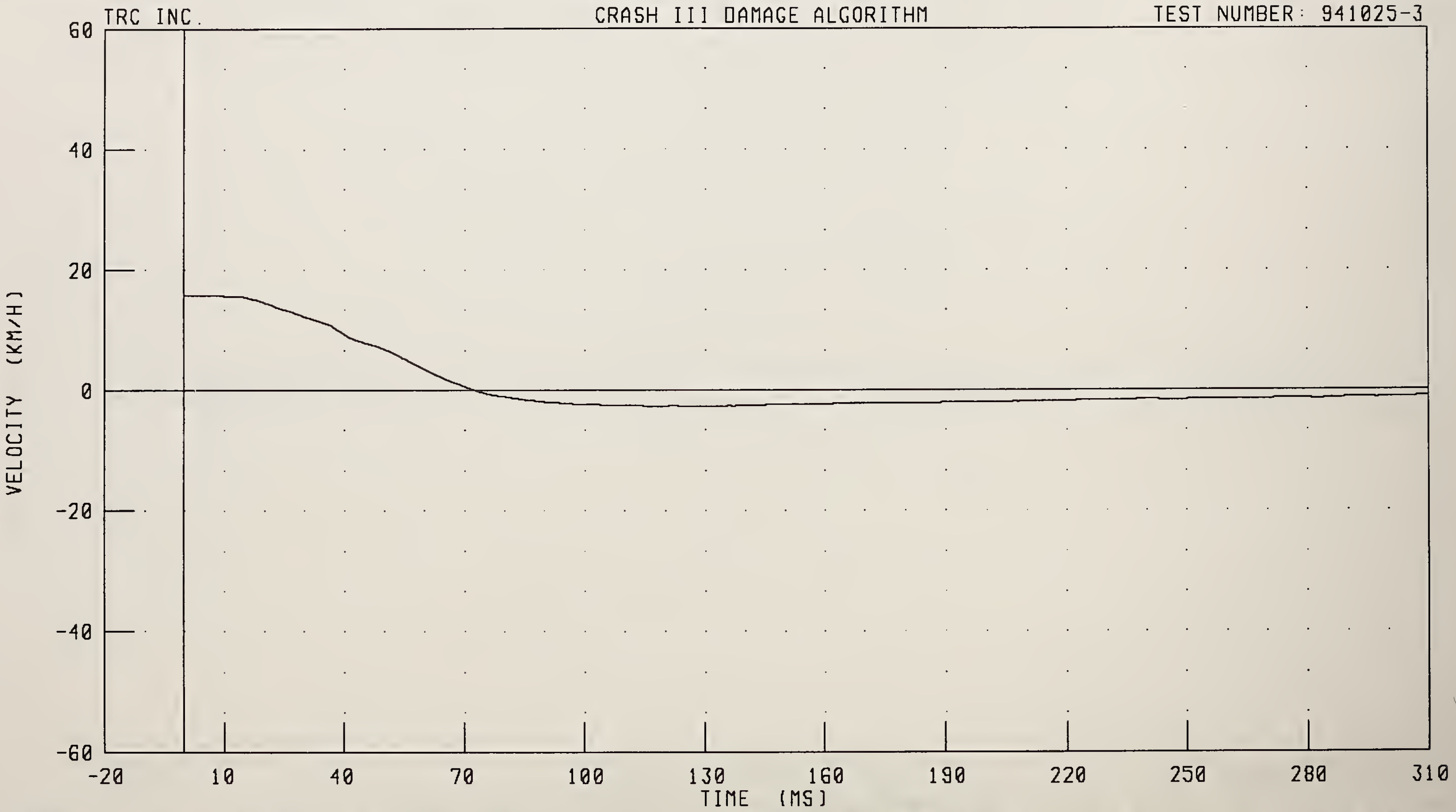
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5

LEFT REAR SILL X-AXIS ACCELERATION



CHANNEL: LRSXG FILTER: CH. CLASS 60 PEAK DATA: 1.09 G @ 287.20 MS; -11.94 G @ 38.96 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

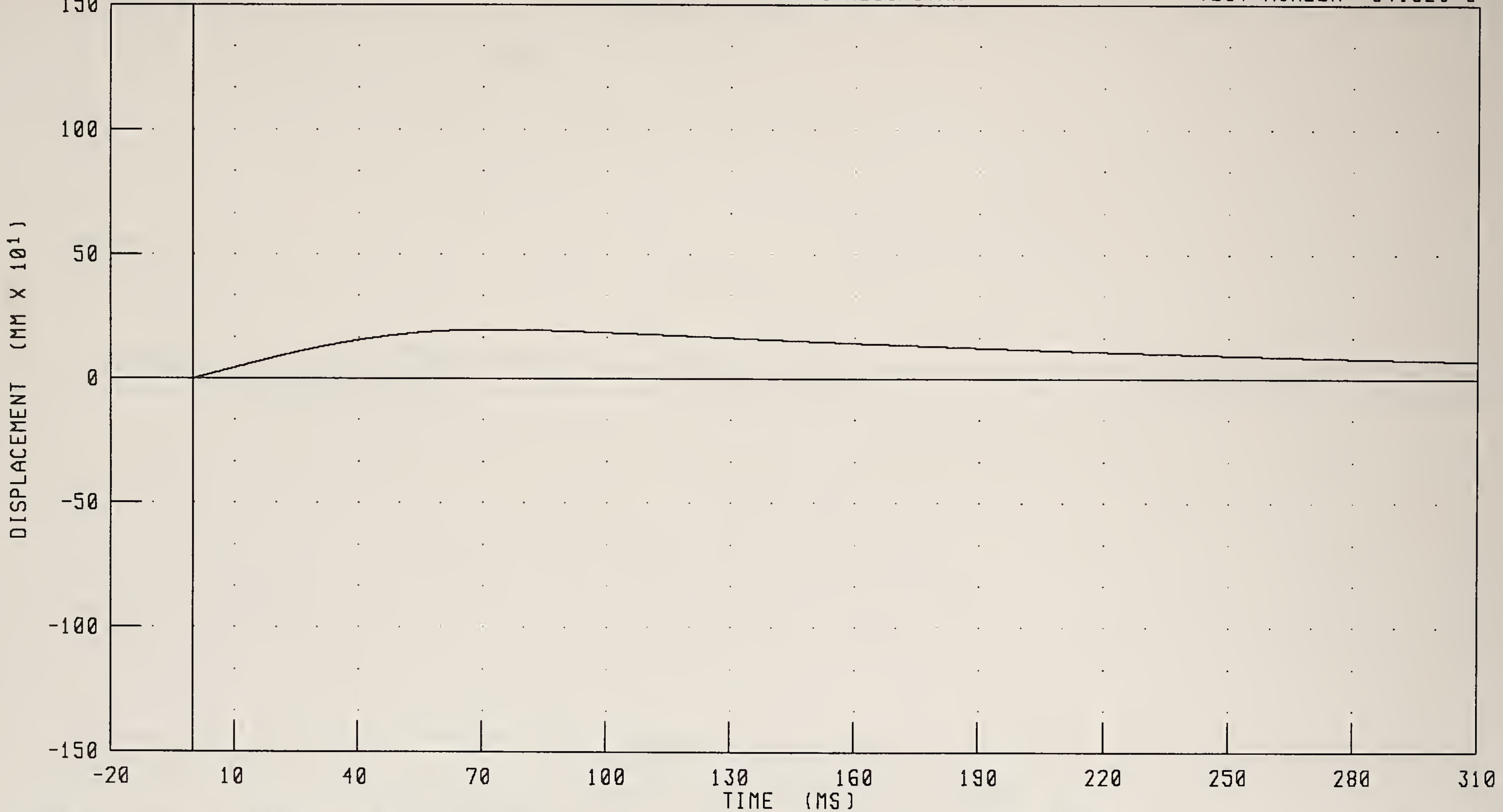


CHANNEL: LRSXV FILTER: CH. CLASS 180 PEAK DATA: 15.83 KM/H @ 2.32 MS; -2.71 KM/H @ 126.48 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

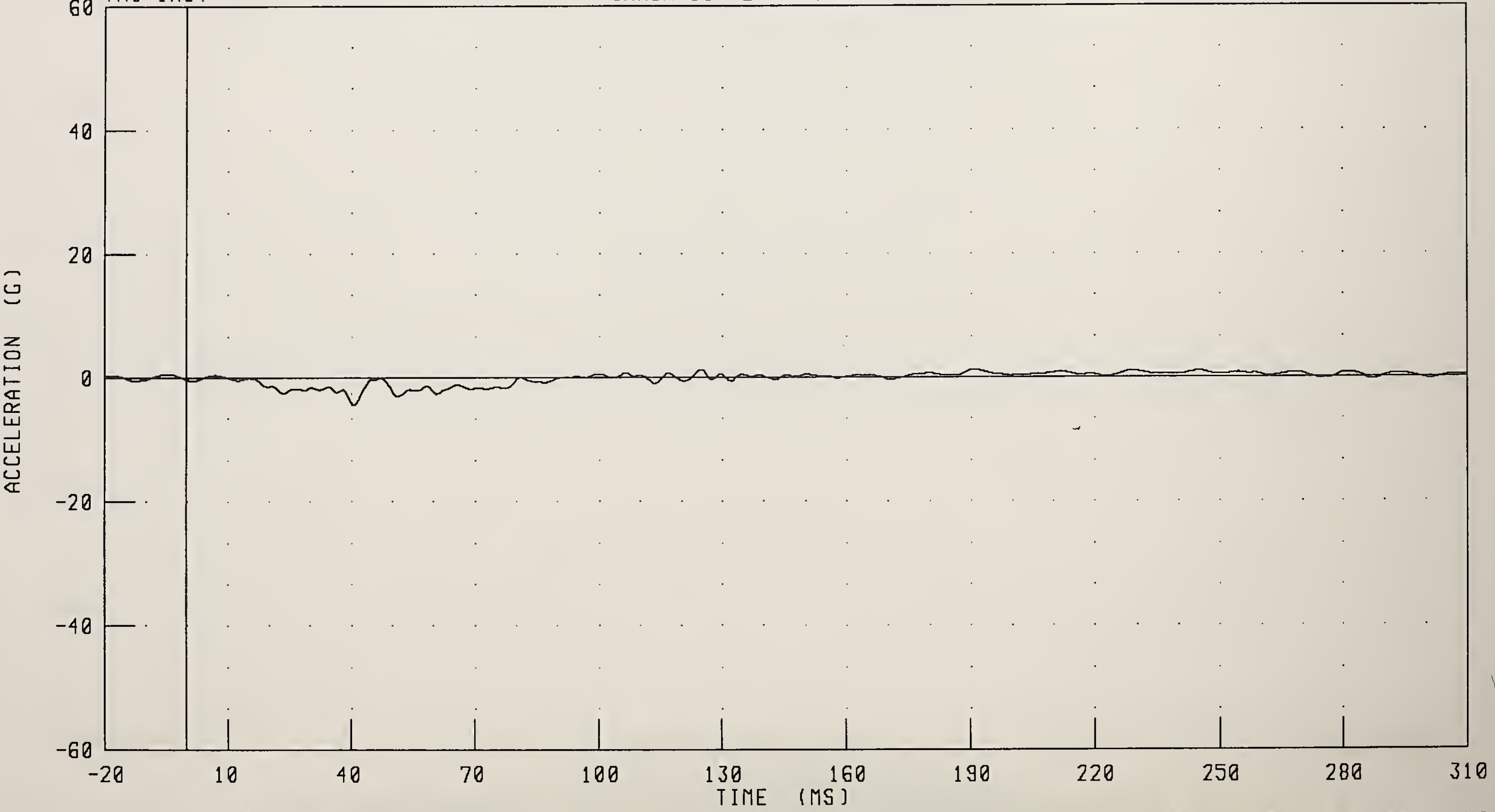


CHANNEL: LRSXD FILTER: CH. CLASS 180 PEAK DATA: 196.82 MM @ 72.64 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT REAR SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

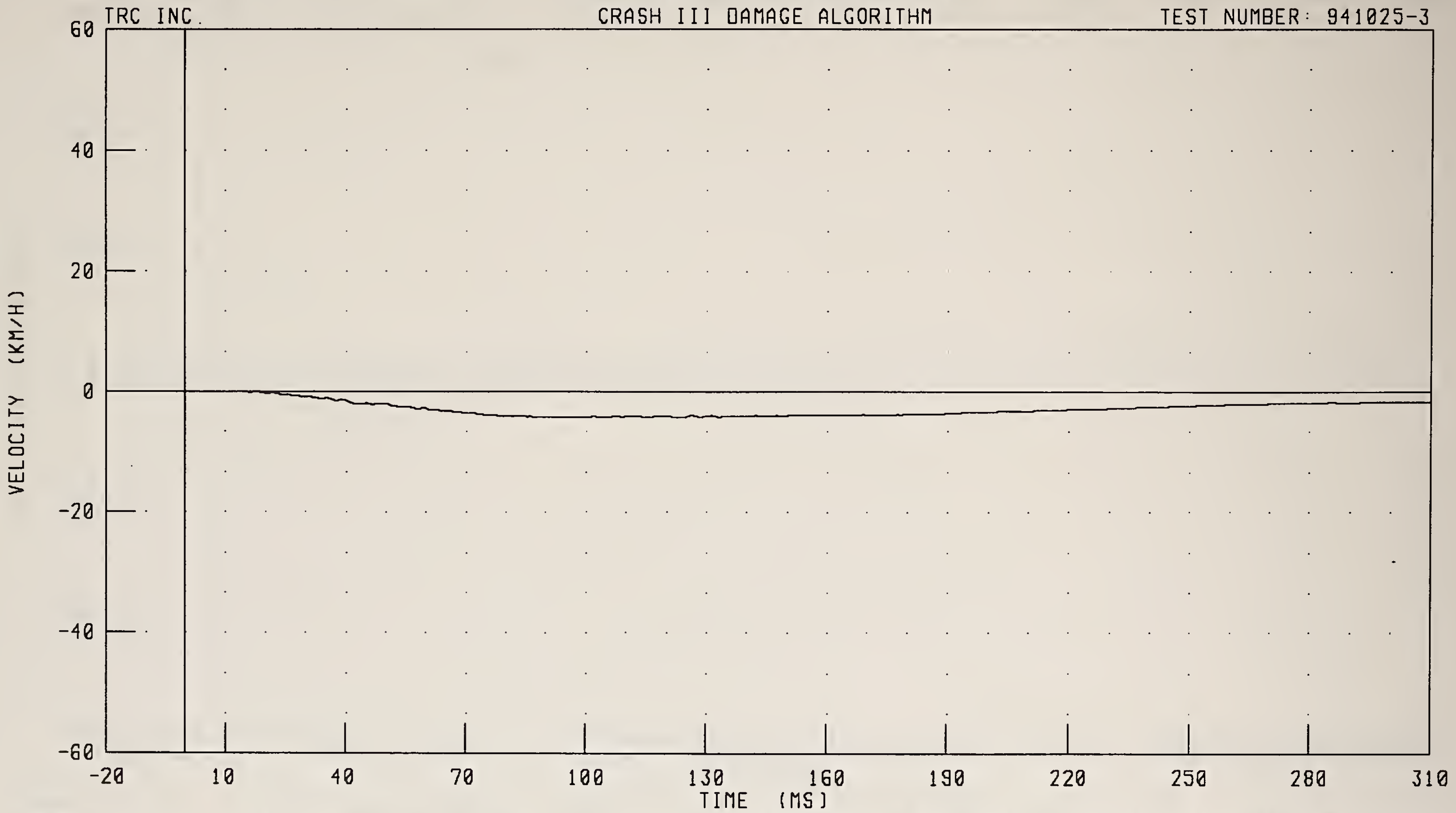
TRC INC.

TEST NUMBER: 941025-3

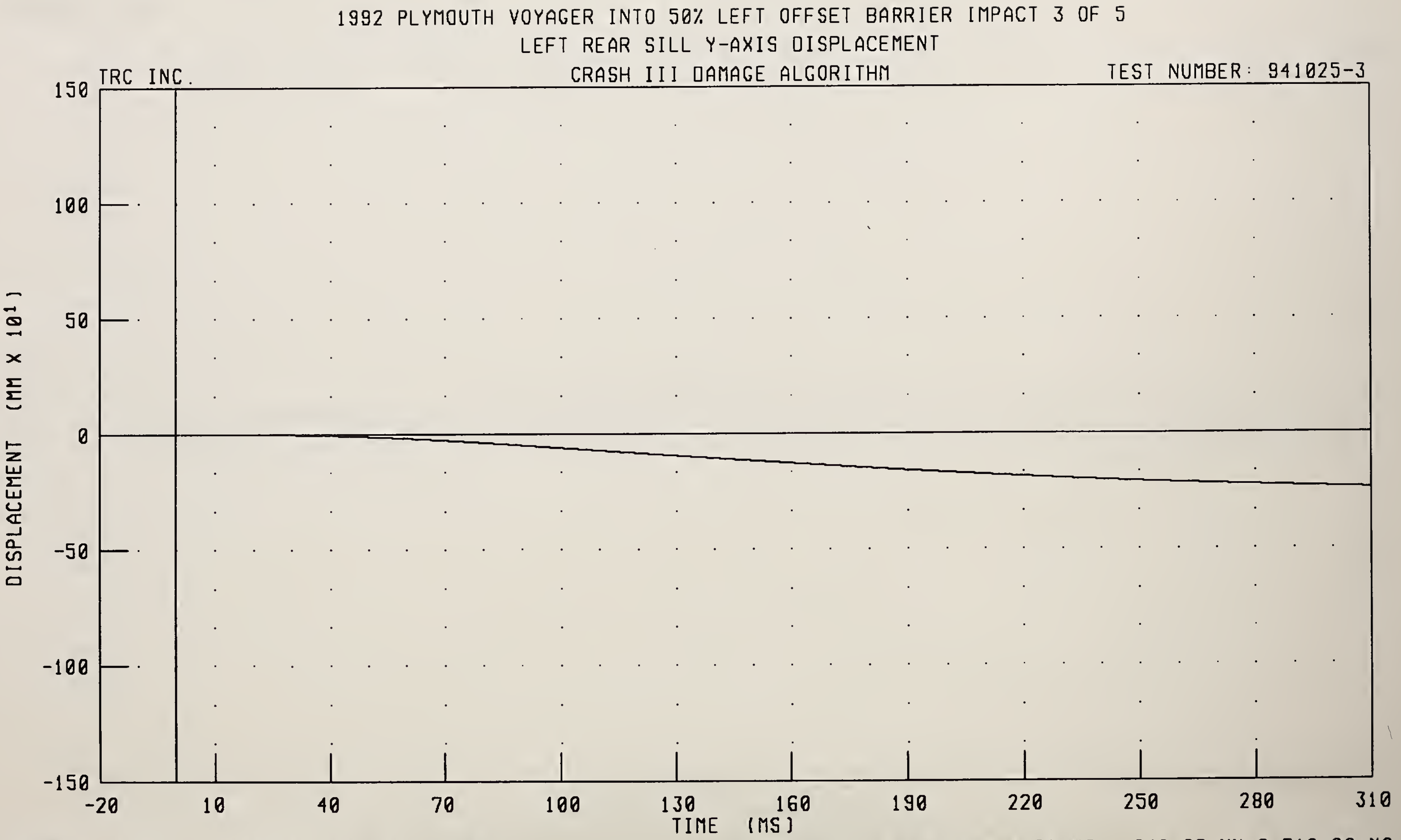


CHANNEL: LRSYG FILTER: CH. CLASS 60 PEAK DATA: 1.27 G @ 125.04 MS; -4.42 G @ 40.72 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT REAR SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: LRSYV FILTER: CH. CLASS 180 PEAK DATA: 0.01 KM/H @ 11.28 MS; -4.27 KM/H @ 97.92 MS

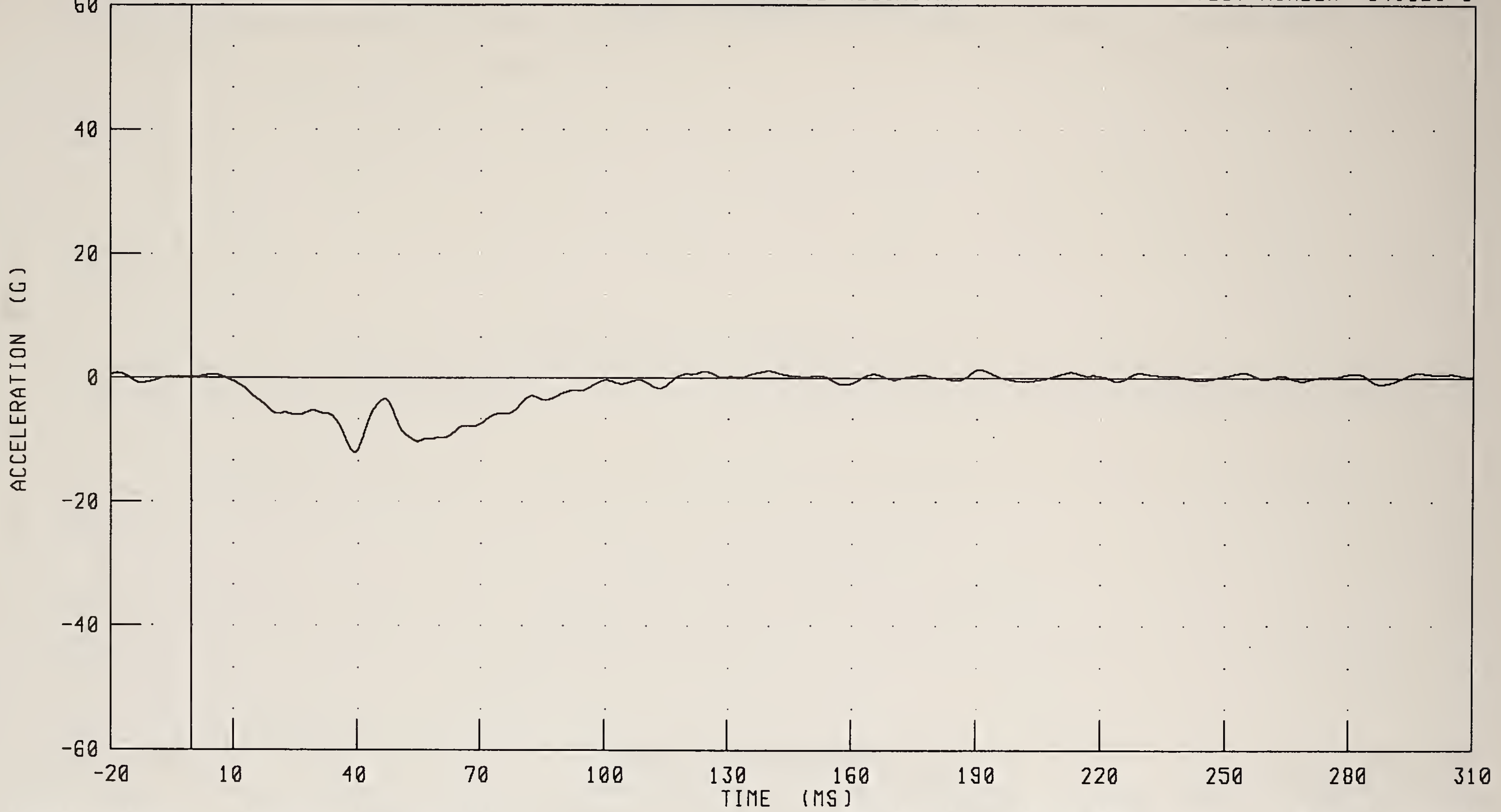


1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
LEFT REAR SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

CHANNEL: LRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.00 MM @ 0.00 MS; -240.03 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.
TEST NUMBER: 941025-3

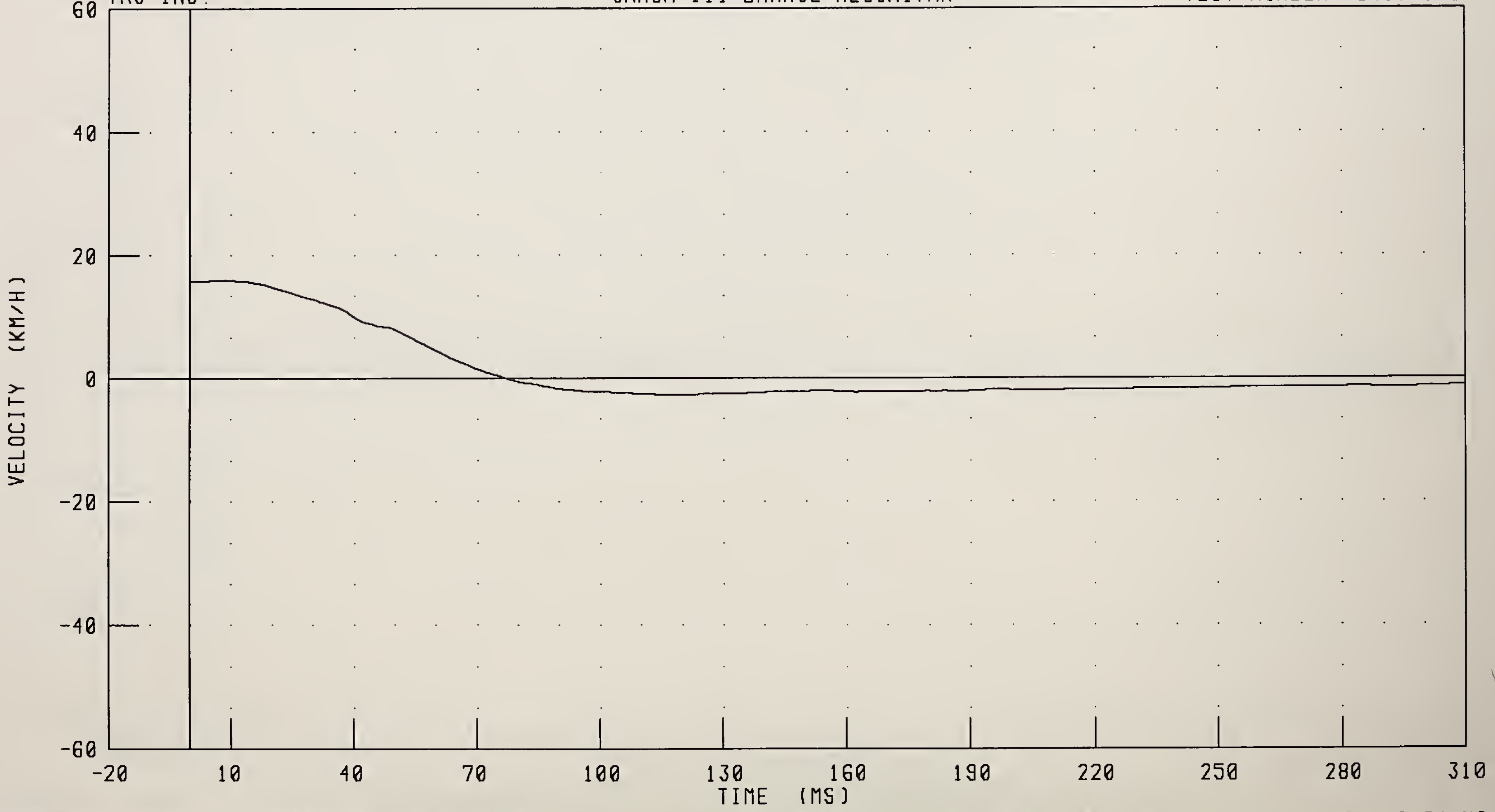


CHANNEL: RRSXG FILTER: CH. CLASS 60
PEAK DATA: 1.39 G @ 190.72 MS; -12.03 G @ 39.28 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

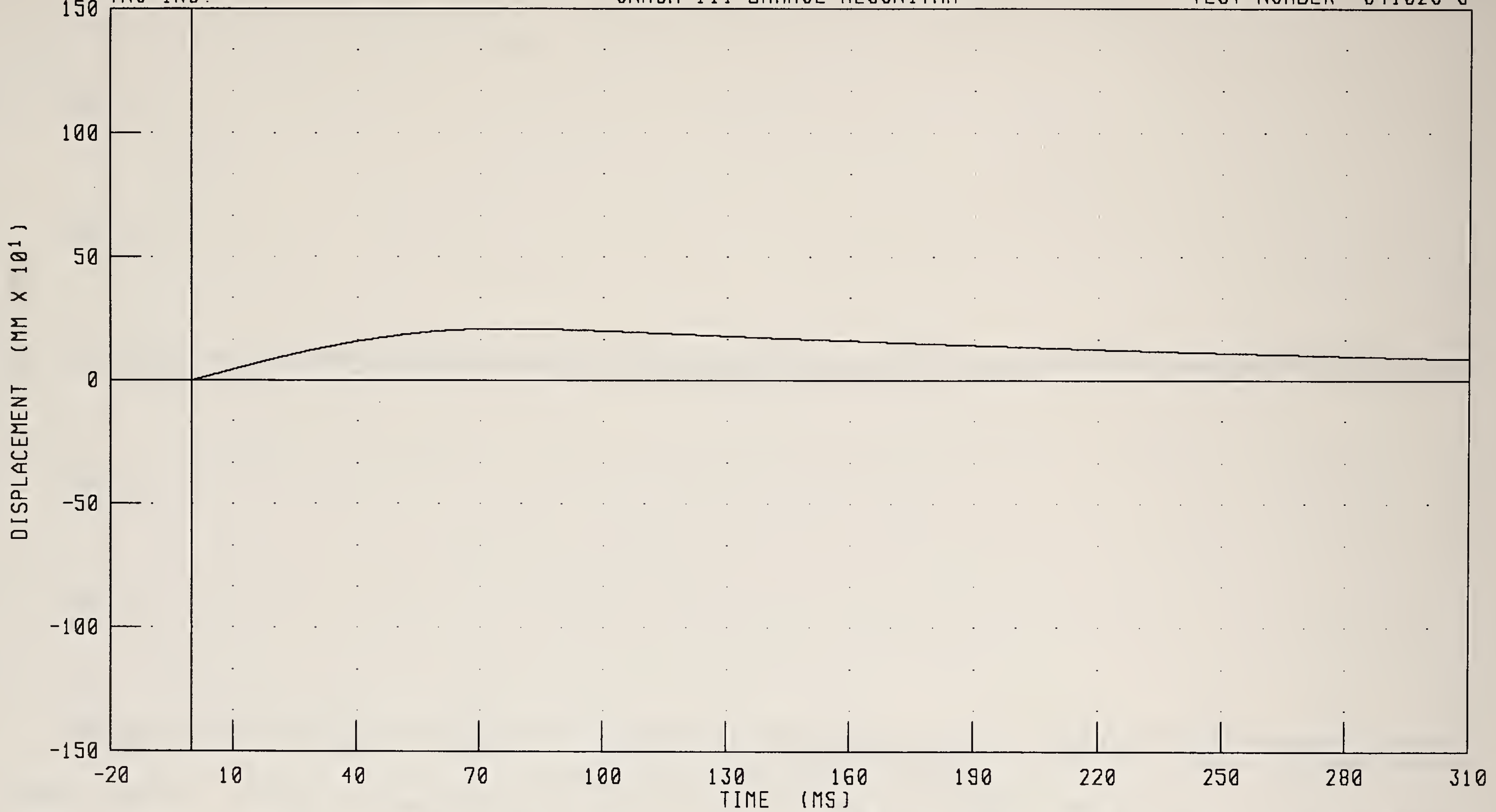


CHANNEL: RRSXV FILTER: CH. CLASS 180 PEAK DATA: 15.90 KM/H @ 8.16 MS; -2.77 KM/H @ 116.24 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-3

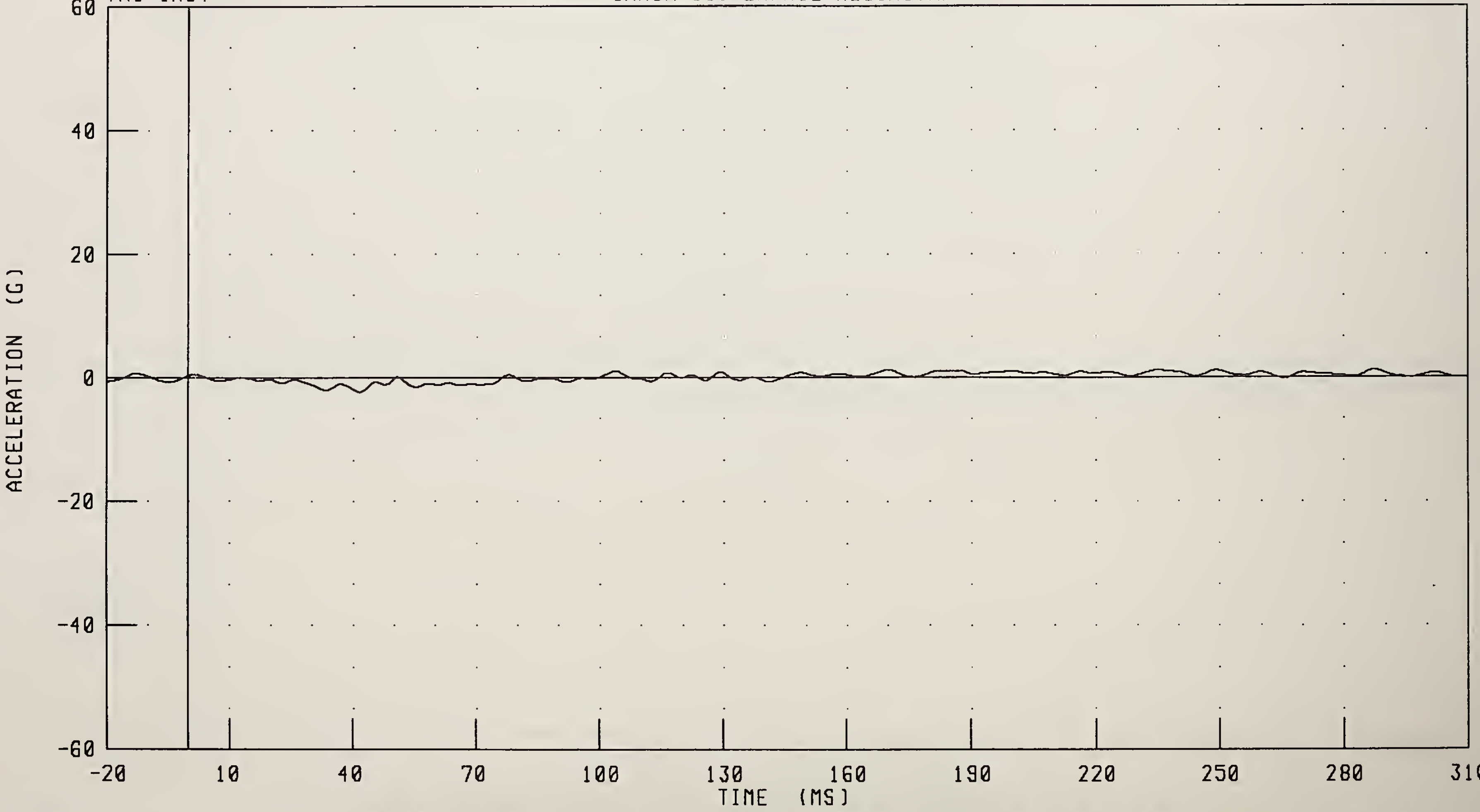


CHANNEL: RRSXD FILTER: CH. CLASS 180 PEAK DATA: 209.13 MM @ 76.96 MS, 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT REAR SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

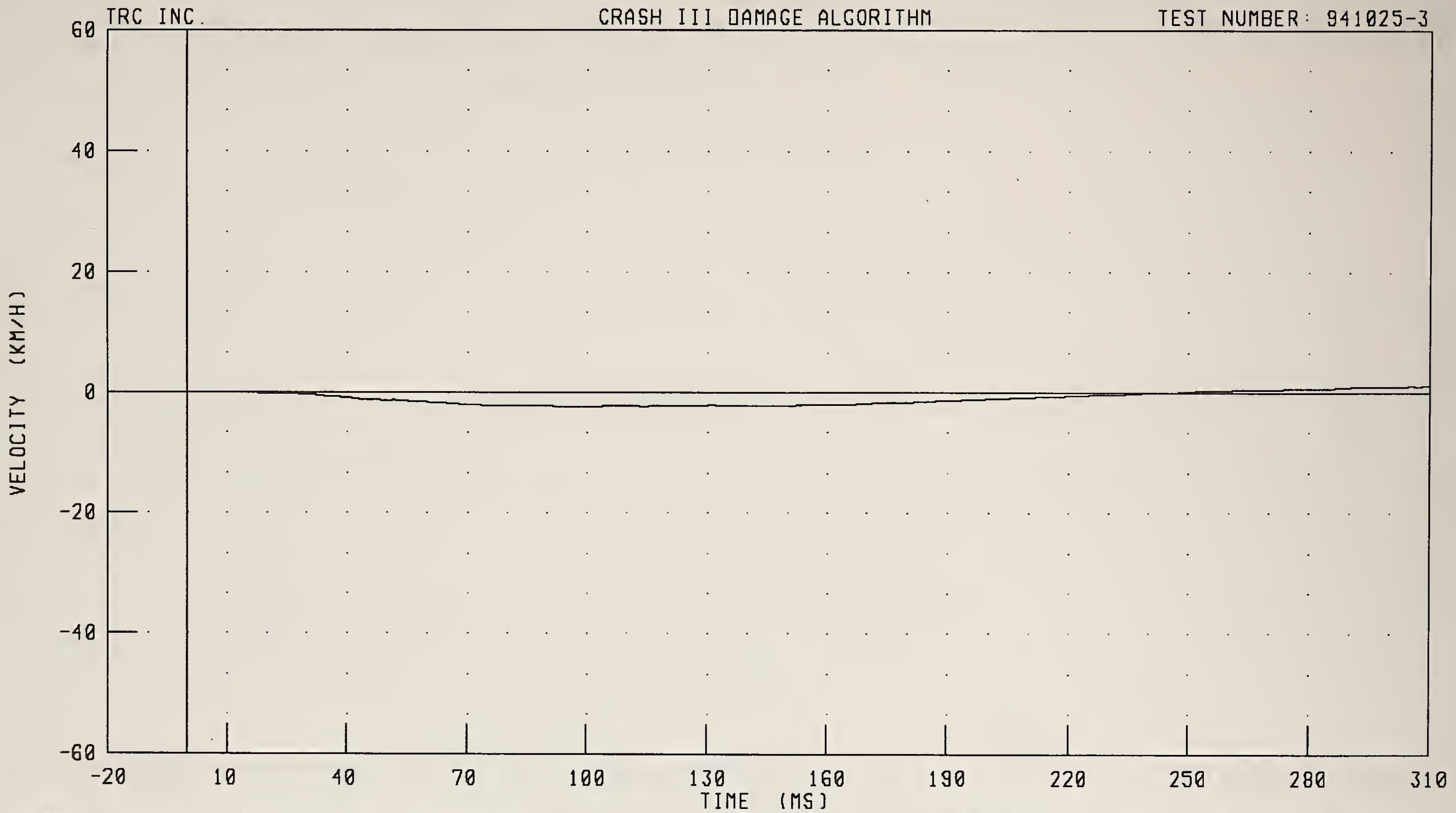
TRC INC.

TEST NUMBER: 941025-3



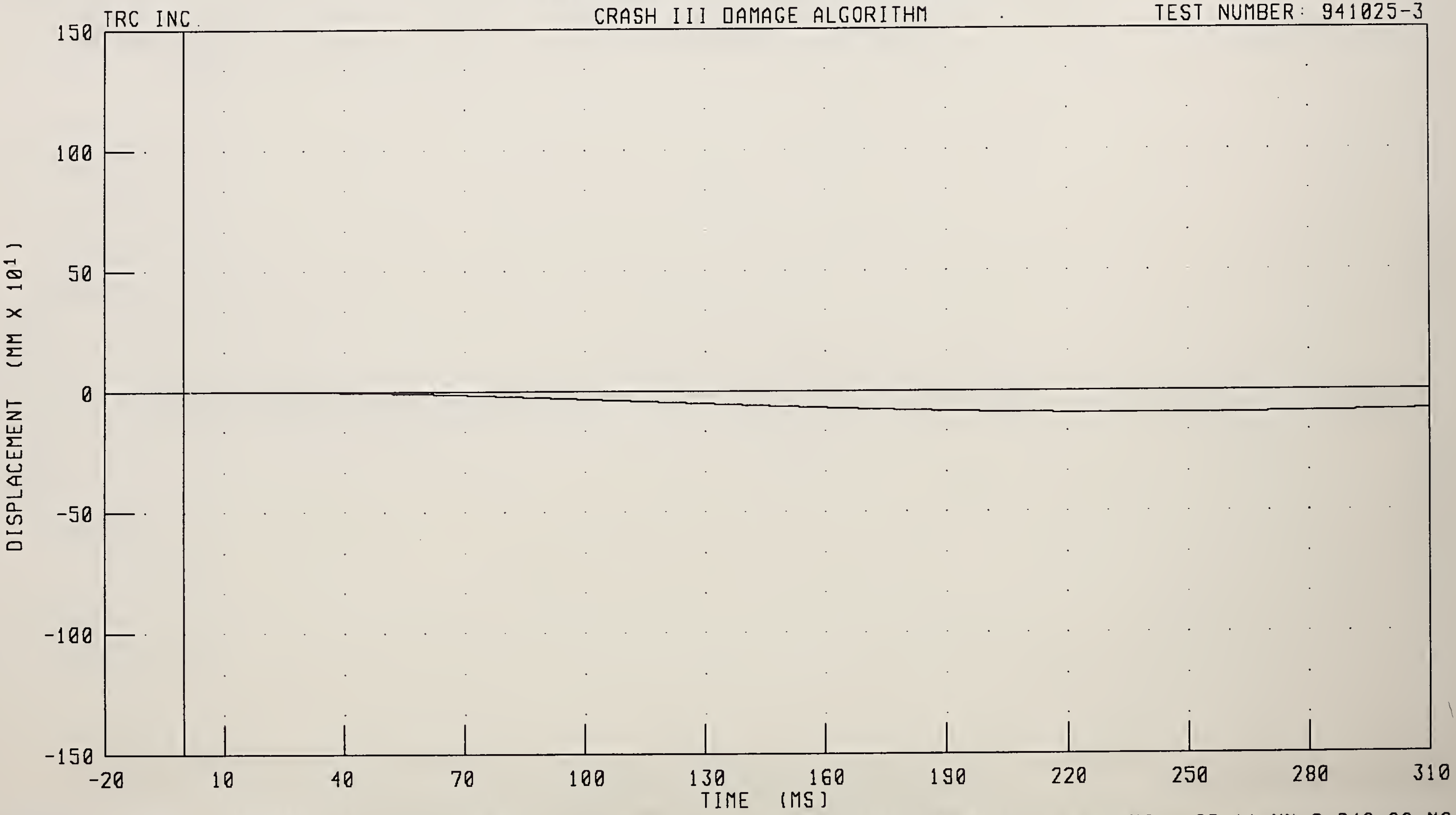
CHANNEL: RRSYG FILTER: CH. CLASS 60 PEAK DATA: 1.23 G @ 170.08 MS; -2.31 G @ 41.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT REAR SILL Y-AXIS VELOCITY



CHANNEL: RRSYV FILTER: CH. CLASS 180 PEAK DATA: 1.12 KM/H @ 309.12 MS; -2.36 KM/H @ 98.88 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 3 OF 5
RIGHT REAR SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM
TEST NUMBER: 941025-3



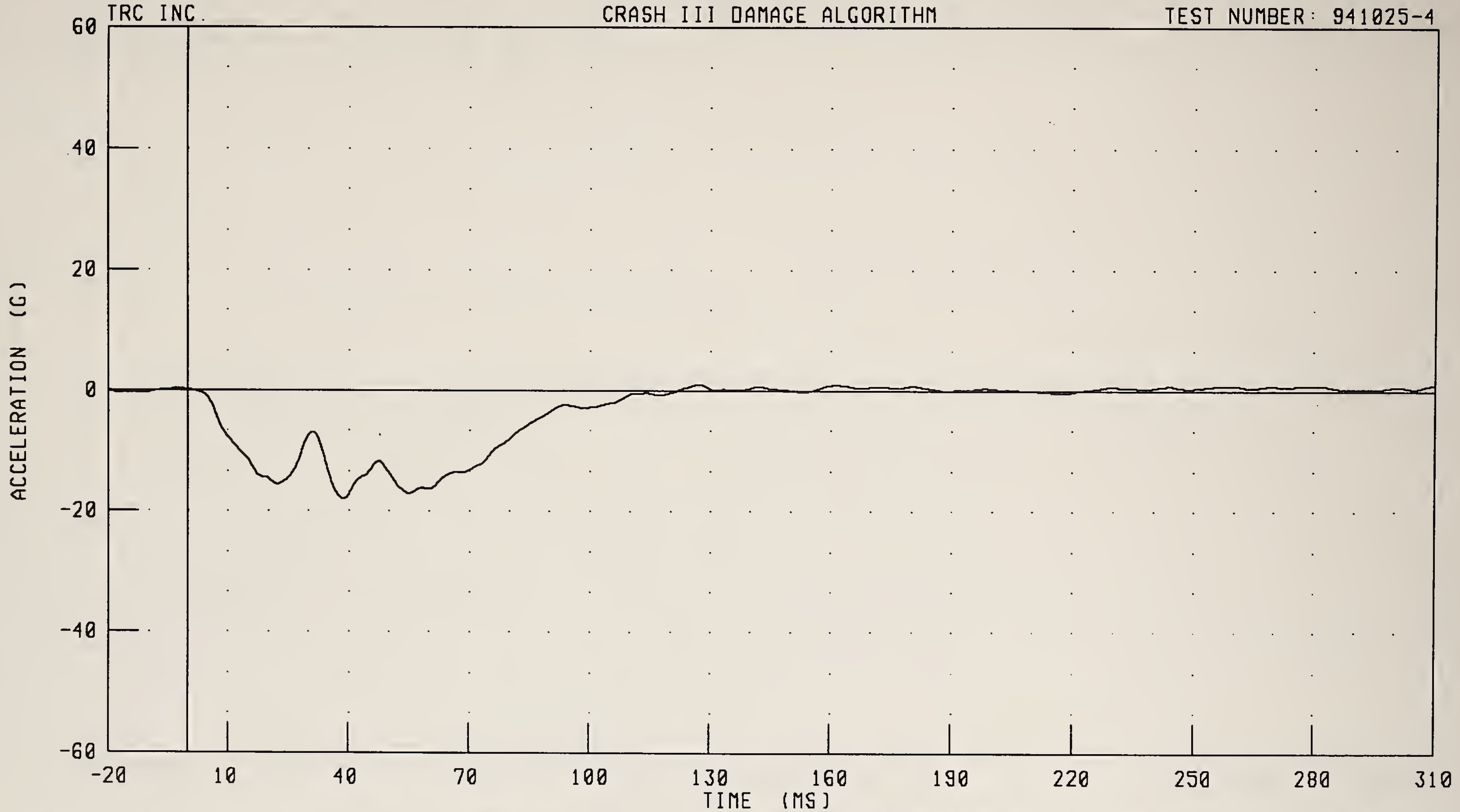
CHANNEL: RRSYD FILTER: CH. CLASS 180

PEAK DATA: 0.11 MM @ 9.68 MS; -93.11 MM @ 240.88 MS

Data Plots

Test No. 941025-4

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

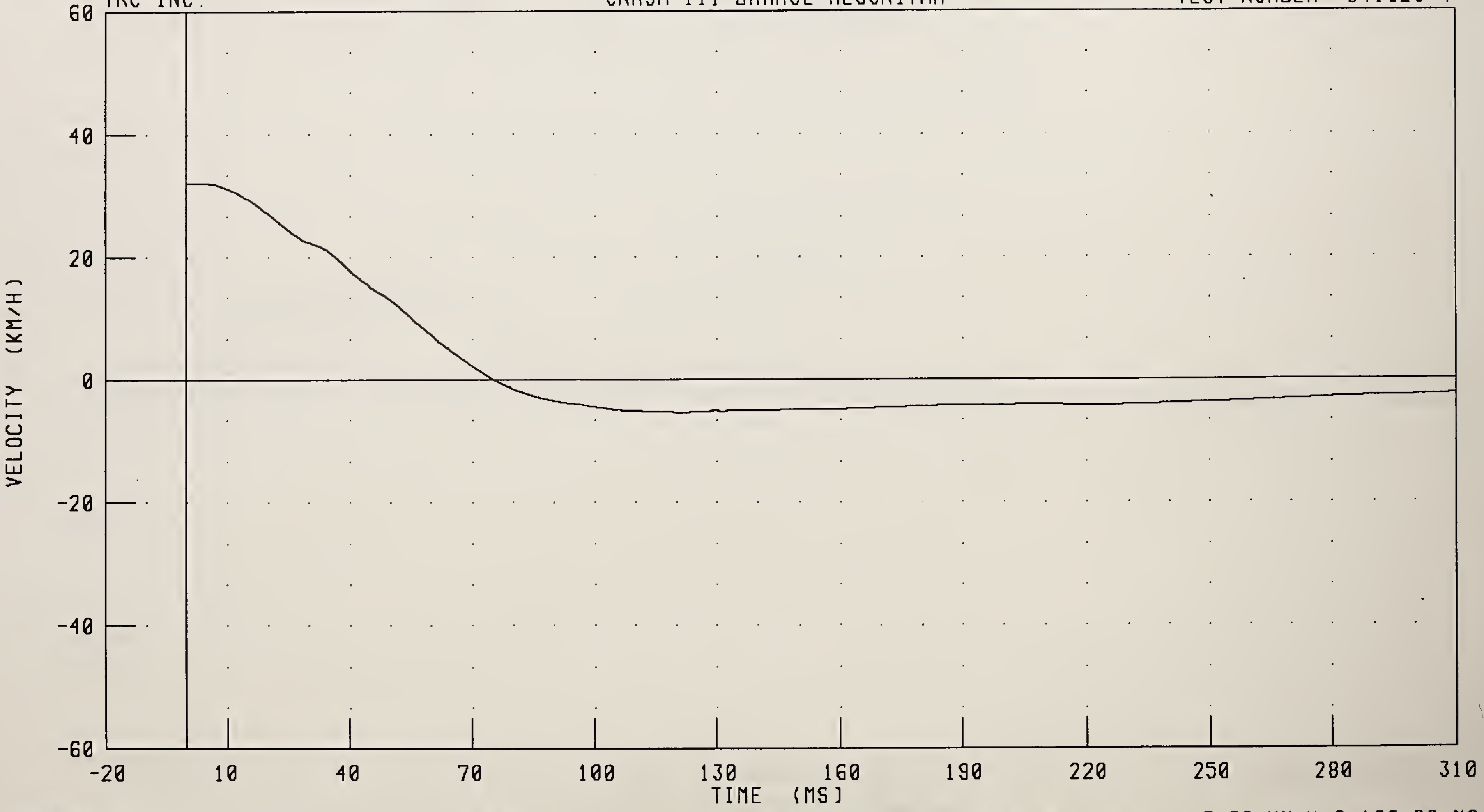


CHANNEL: VCGXG FILTER: CH. CLASS 60 PEAK DATA: 1.08 G @ 127.20 MS; -17.96 G @ 38.80 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-4

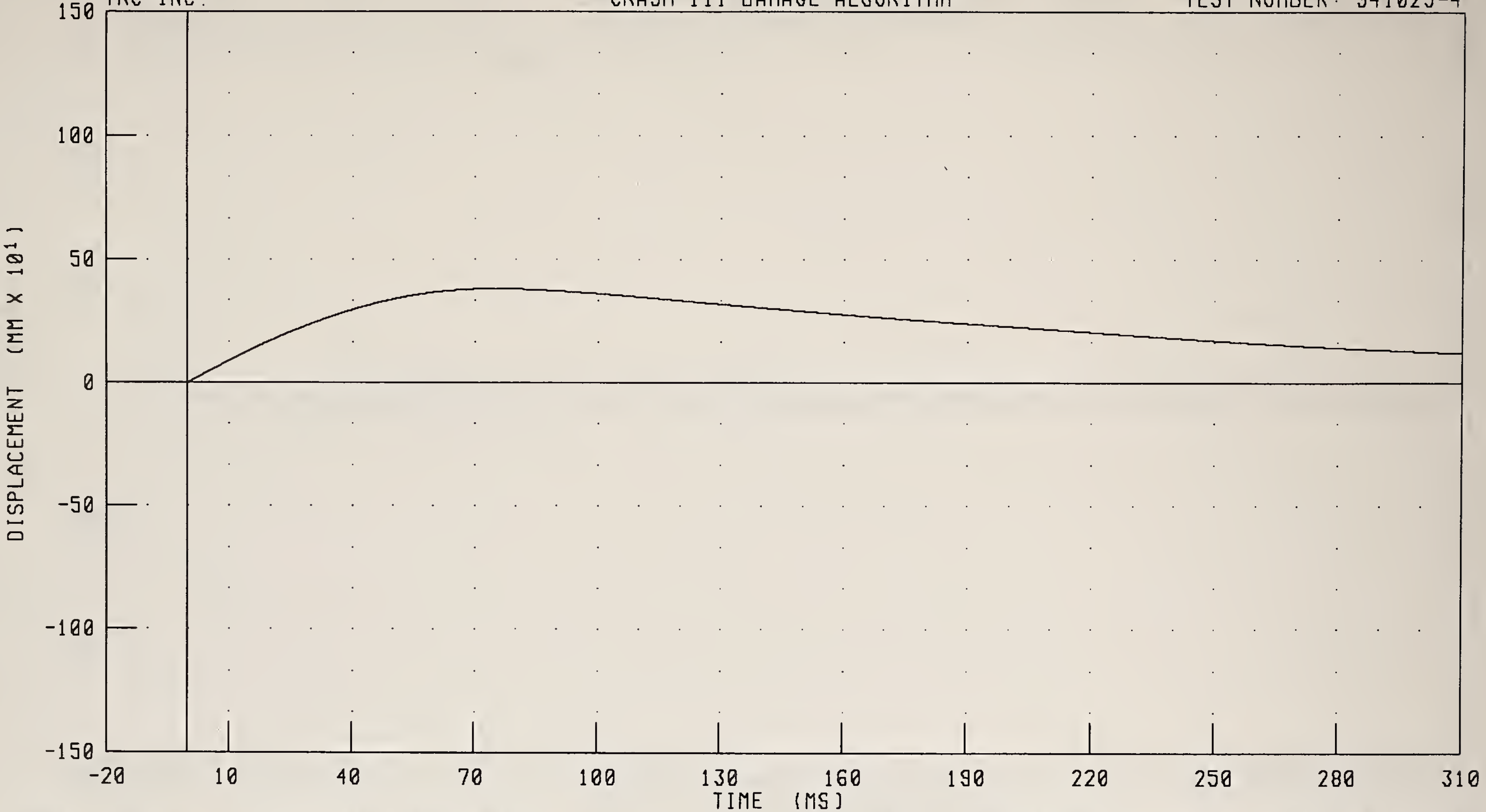


CHANNEL: VCGXV   FILTER: CH. CLASS 180   PEAK DATA: 32.02 KM/H @ 1.20 MS; -5.36 KM/H @ 122.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

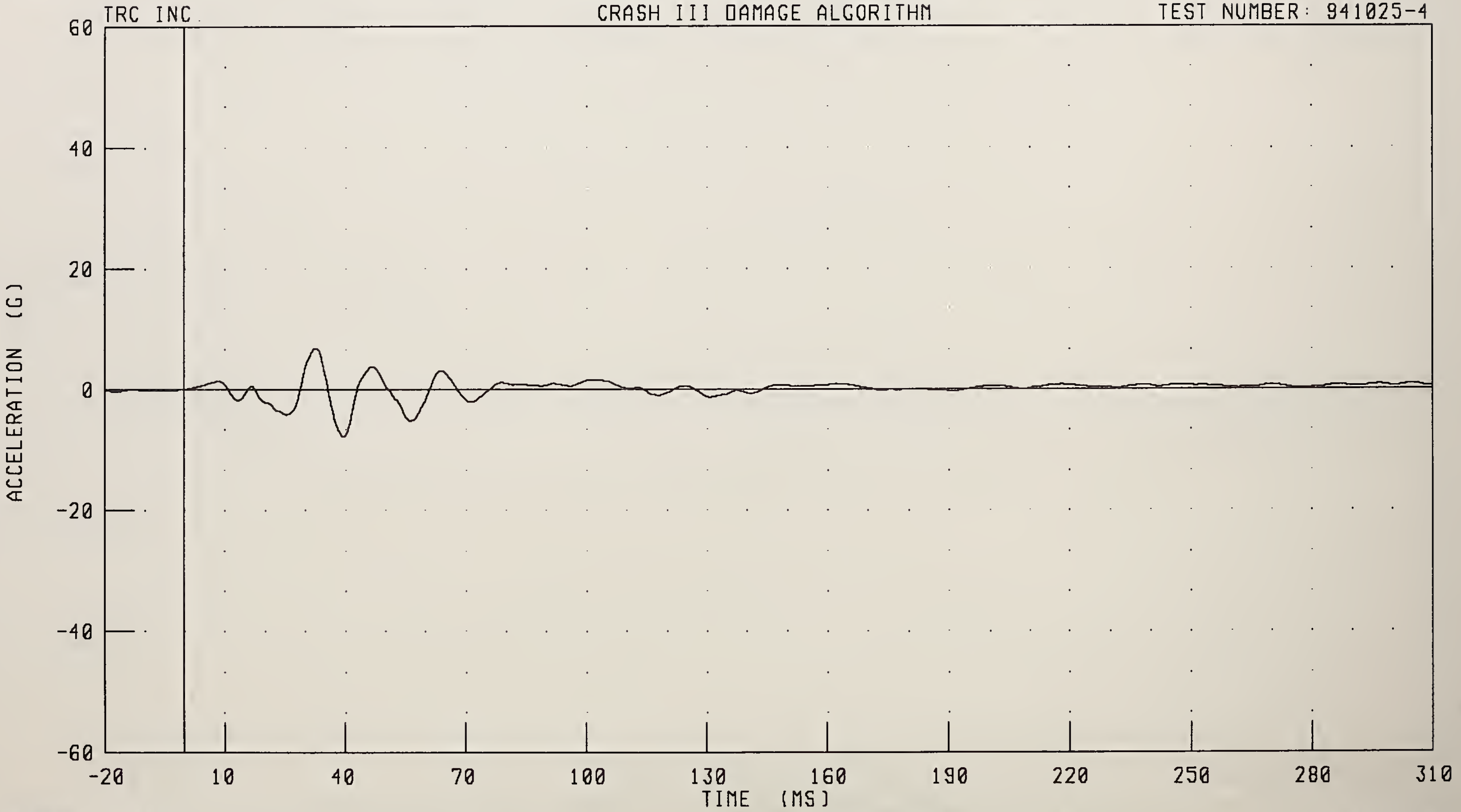
TRC INC.

TEST NUMBER: 941025-4



CHANNEL: VCGXD FILTER: CH. CLASS 180 PEAK DATA: 380.99 MM @ 75.36 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

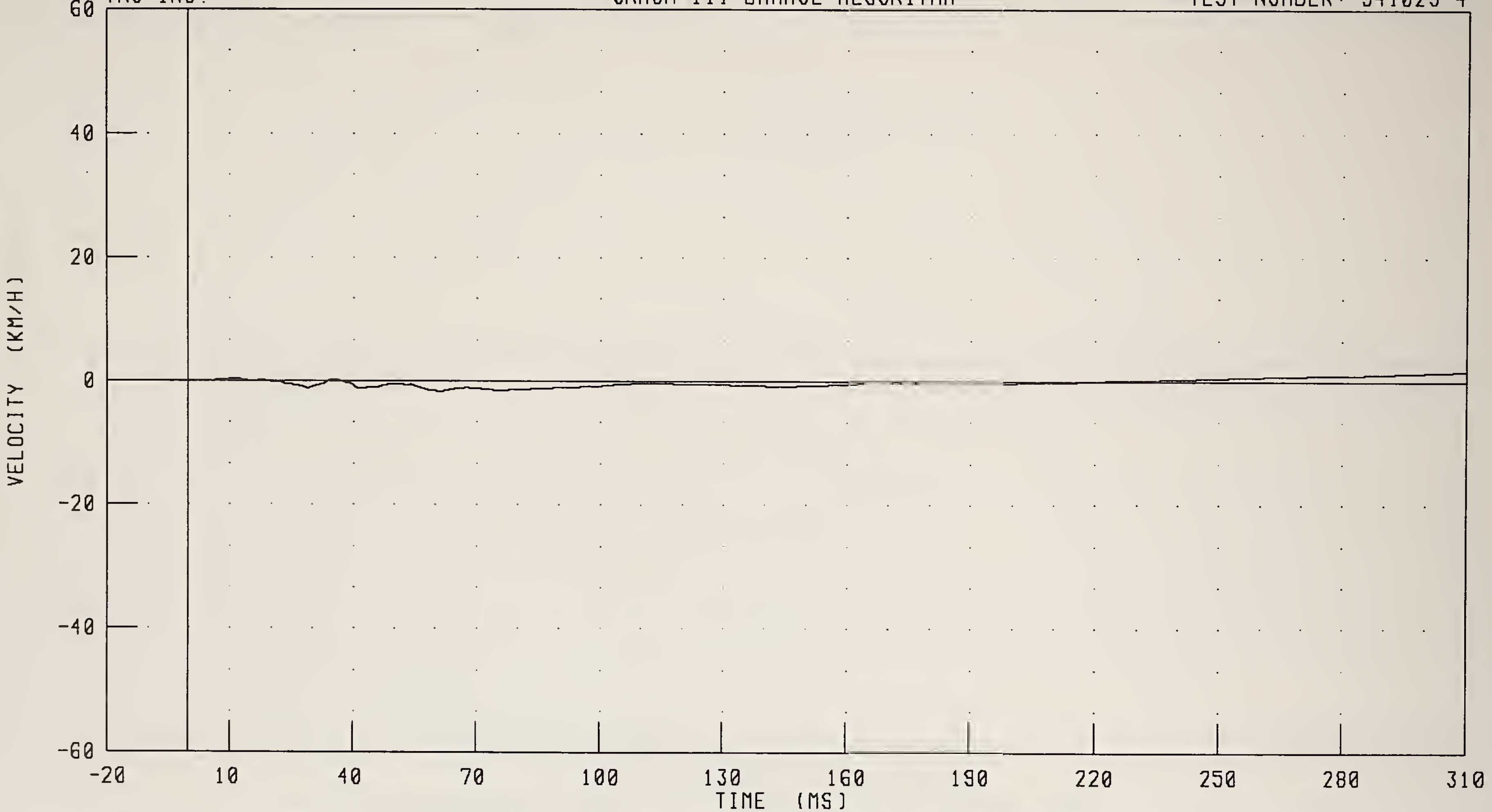


CHANNEL: VCGYG FILTER: CH. CLASS 60 PEAK DATA: 6.85 G @ 32.72 MS; -7.83 G @ 39.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

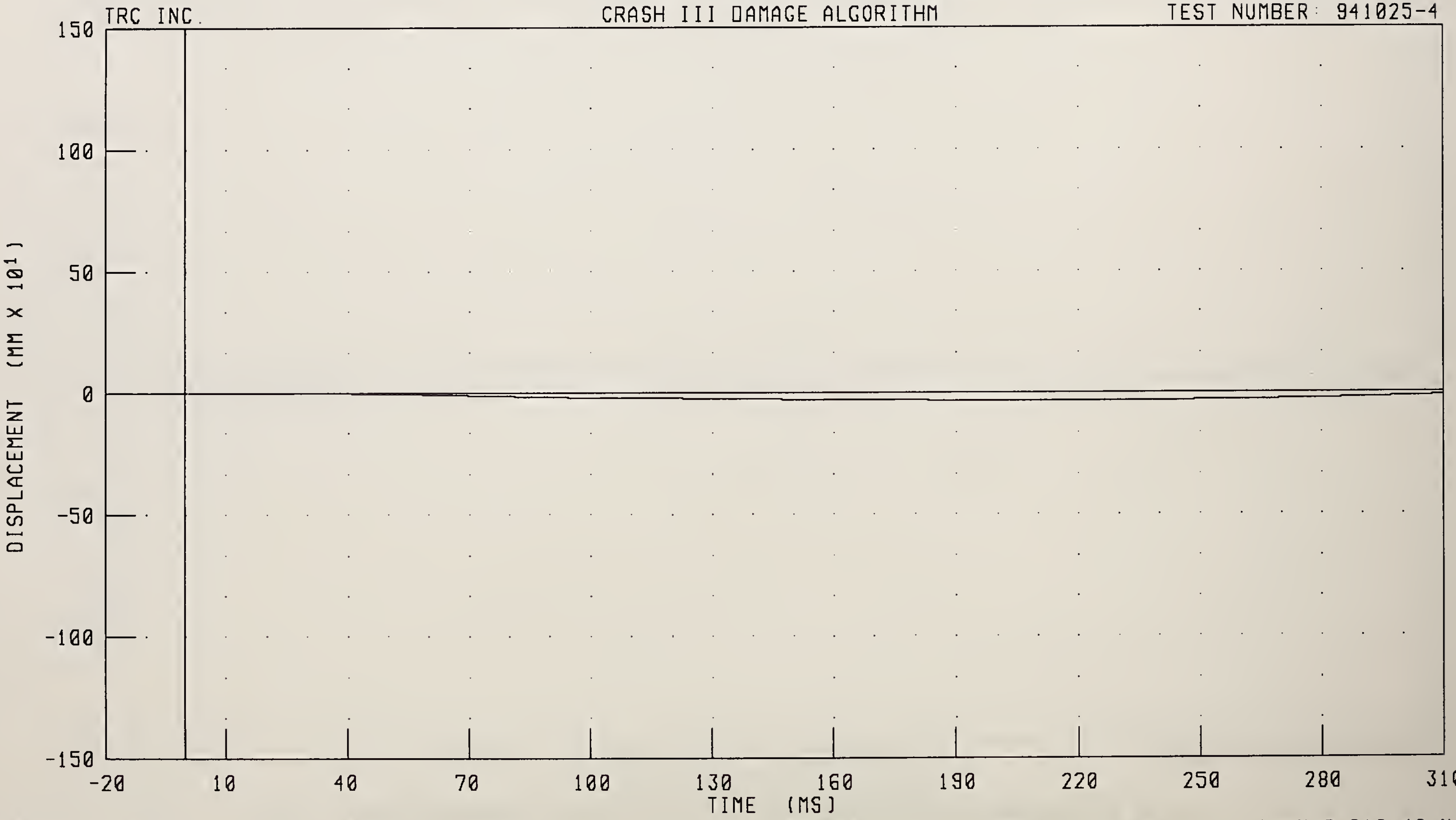
TRC INC.

TEST NUMBER: 941025-4



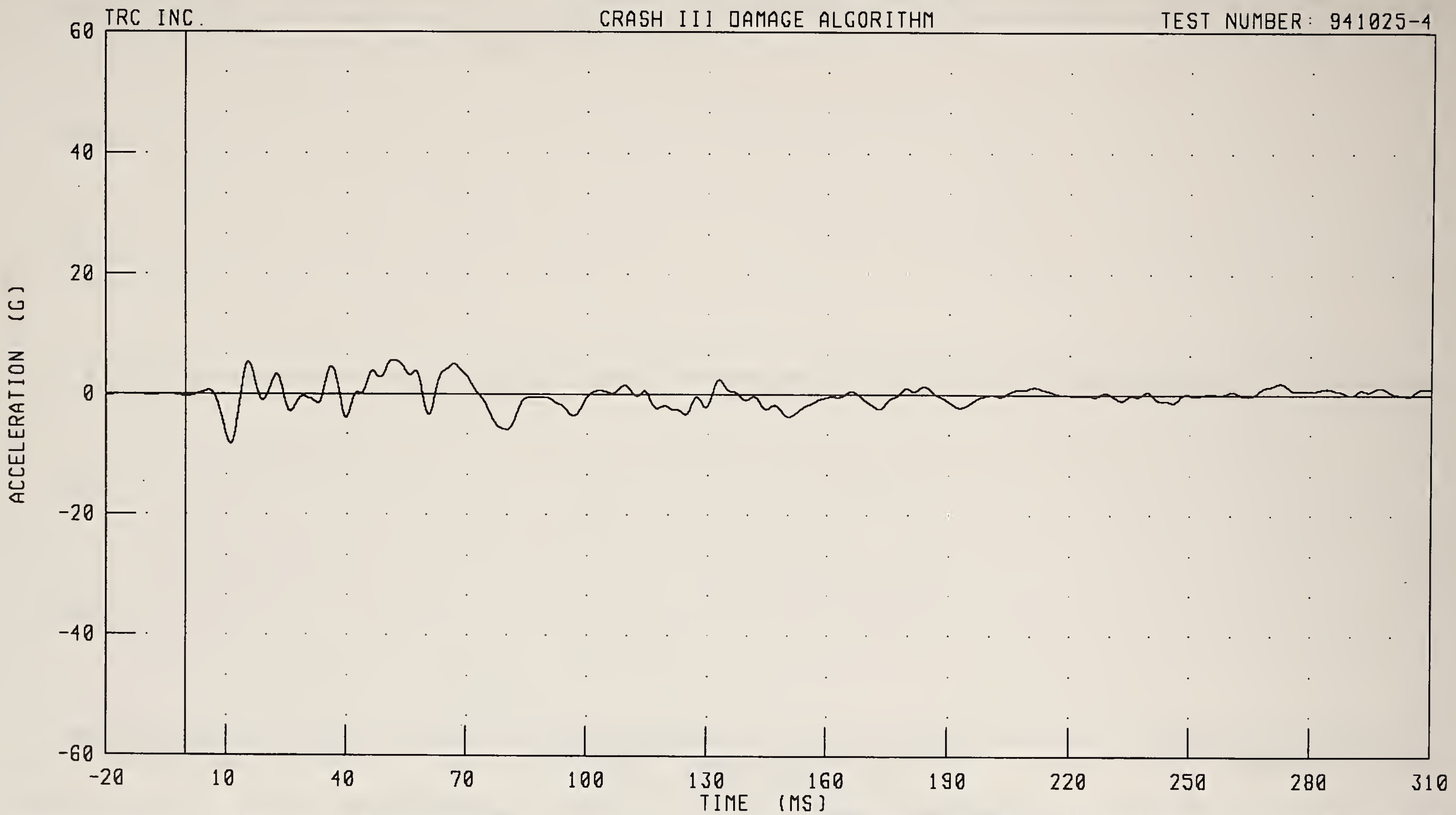
CHANNEL: VCGYV FILTER: CH. CLASS 180 PEAK DATA: 1.66 KM/H @ 308.80 MS; -1.62 KM/H @ 60.88 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



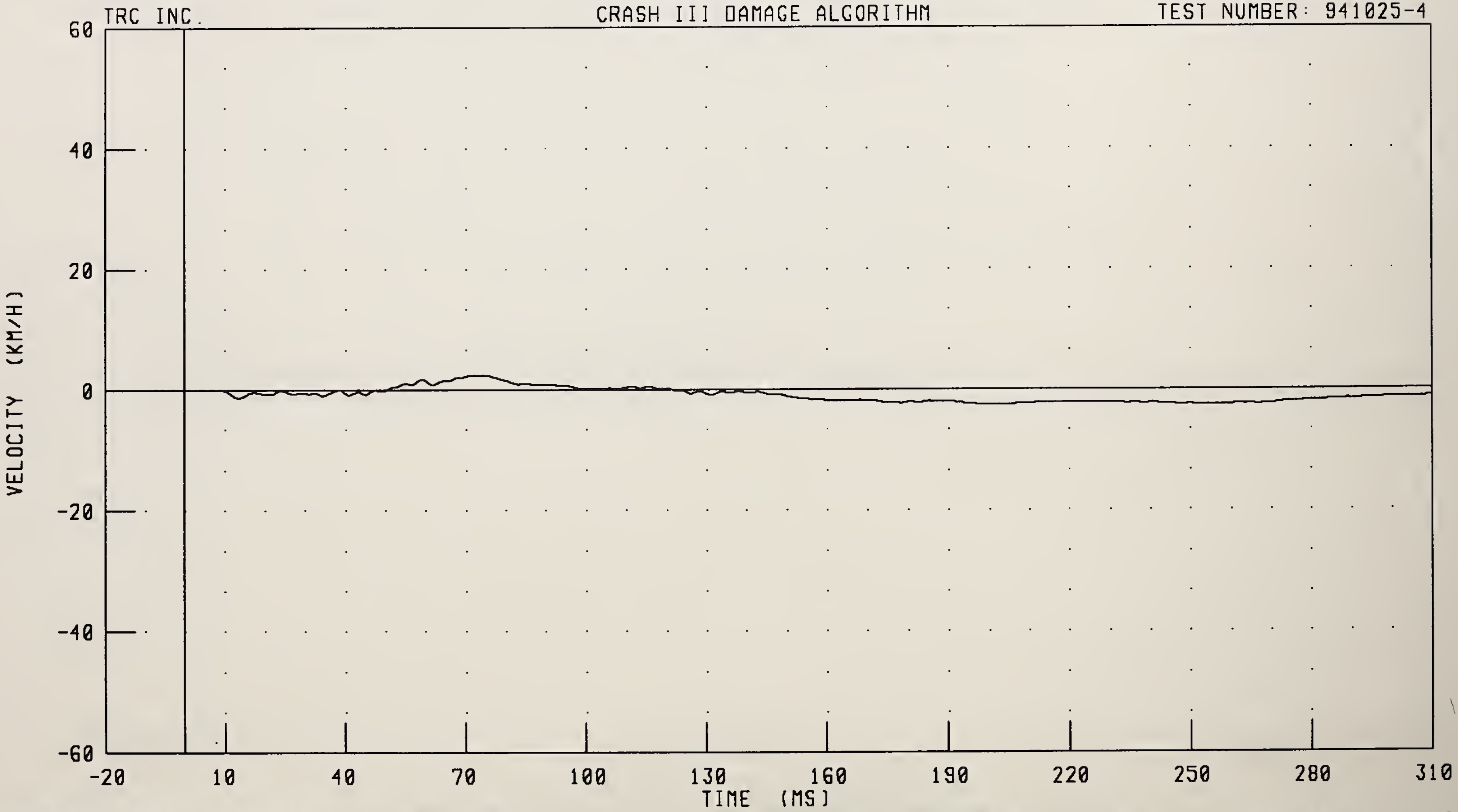
CHANNEL: VCGYD FILTER: CH. CLASS 180 PEAK DATA: 0.61 MM @ 19.52 MS; -33.63 MM @ 218.40 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG Z-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



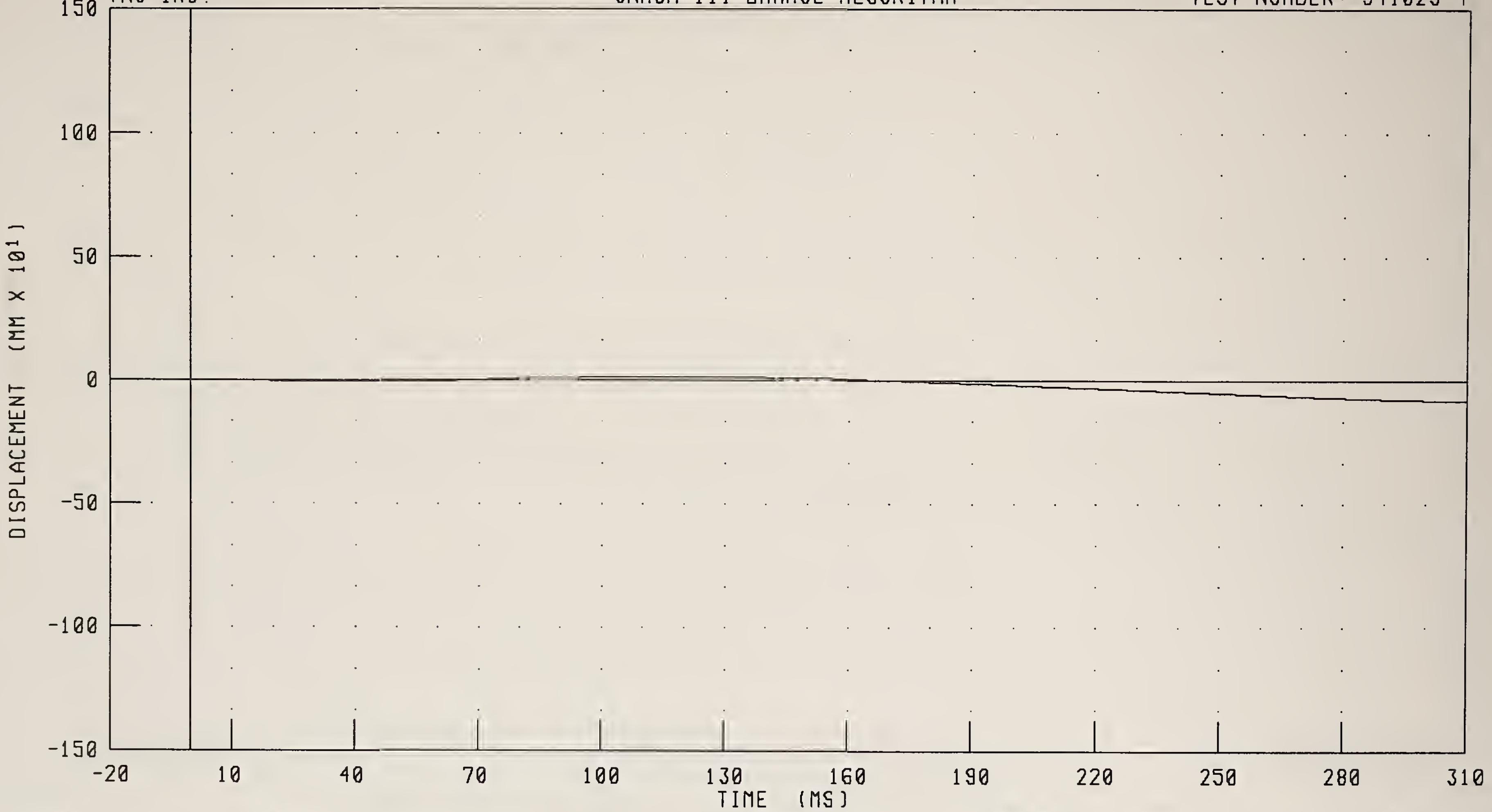
CHANNEL: VCGZG FILTER: CH. CLASS 60 PEAK DATA: 5.68 G @ 51.60 MS; -8.26 G @ 11.12 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG Z-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGZV FILTER: CH. CLASS 180 PEAK DATA: 2.38 KM/H @ 71.36 MS; -2.54 KM/H @ 247.44 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG Z-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-4

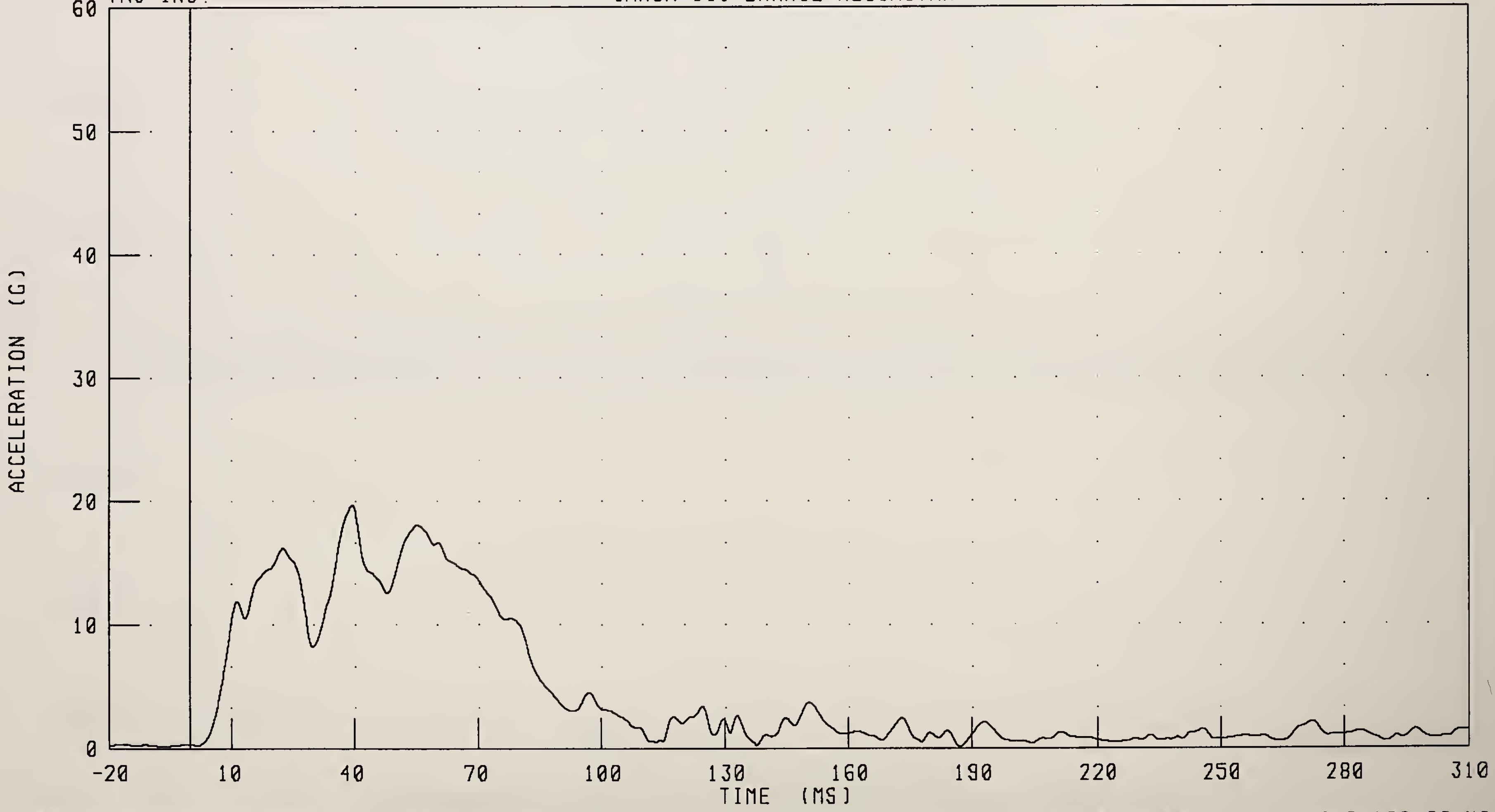


CHANNEL: VCGZD FILTER: CH. CLASS 180 PEAK DATA: 12.98 MM @ 121.36 MS; -82.09 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG RESULTANT ACCELERATION
CRASH III DAMAGE ALGORITHM

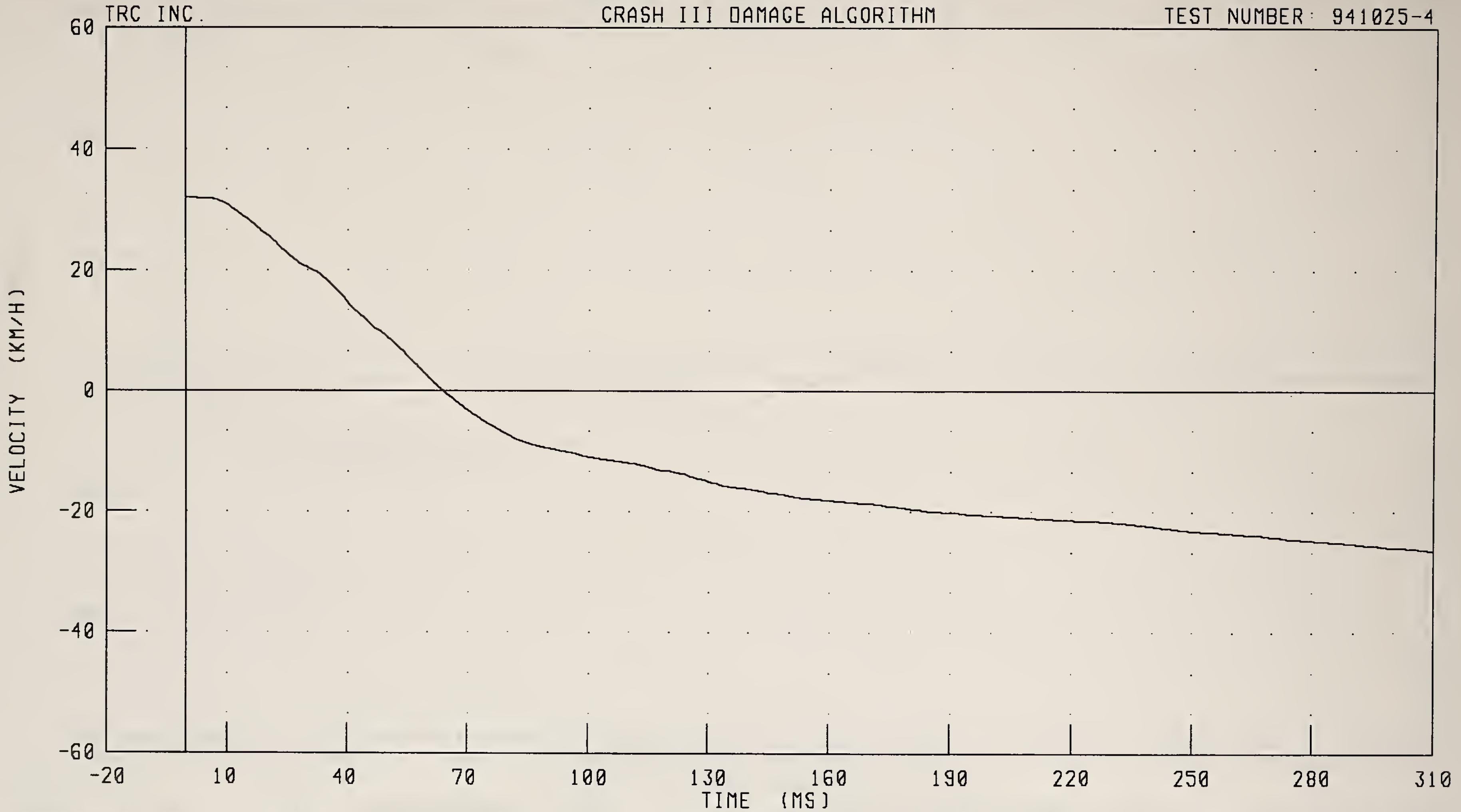
TRC INC.

TEST NUMBER: 941025-4



CHANNEL: VCGRG FILTER: CH. CLASS 60 PEAK DATA: 19.71 G @ 39.44 MS; 0.15 G @ 186.88 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG RESULTANT VELOCITY
CRASH III DAMAGE ALGORITHM

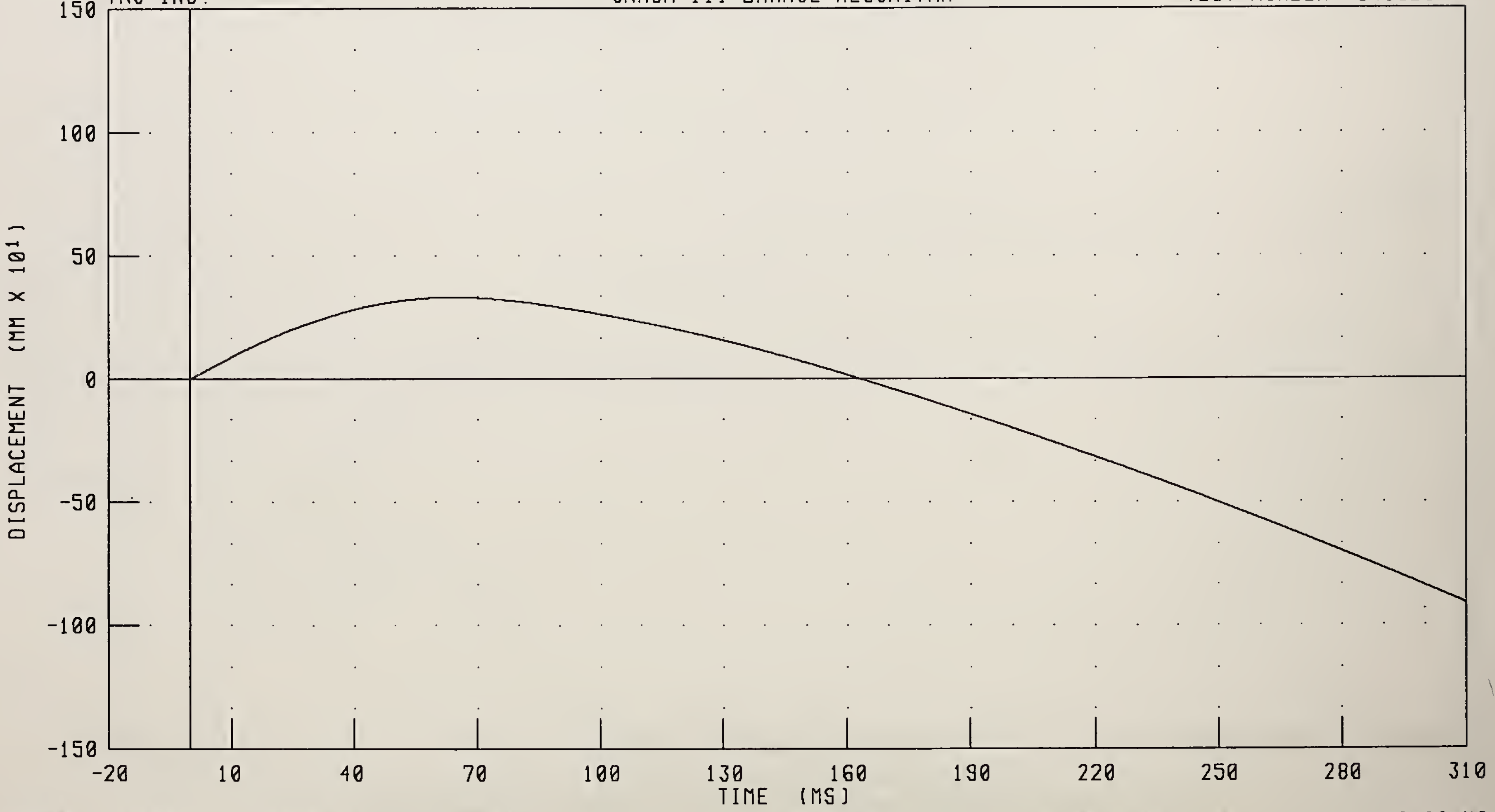


CHANNEL: VCGRV FILTER: CH. CLASS 180 PEAK DATA: 32.00 KM/H @ 0.00 MS; -26.39 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
VEHICLE CG RESULTANT DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-4

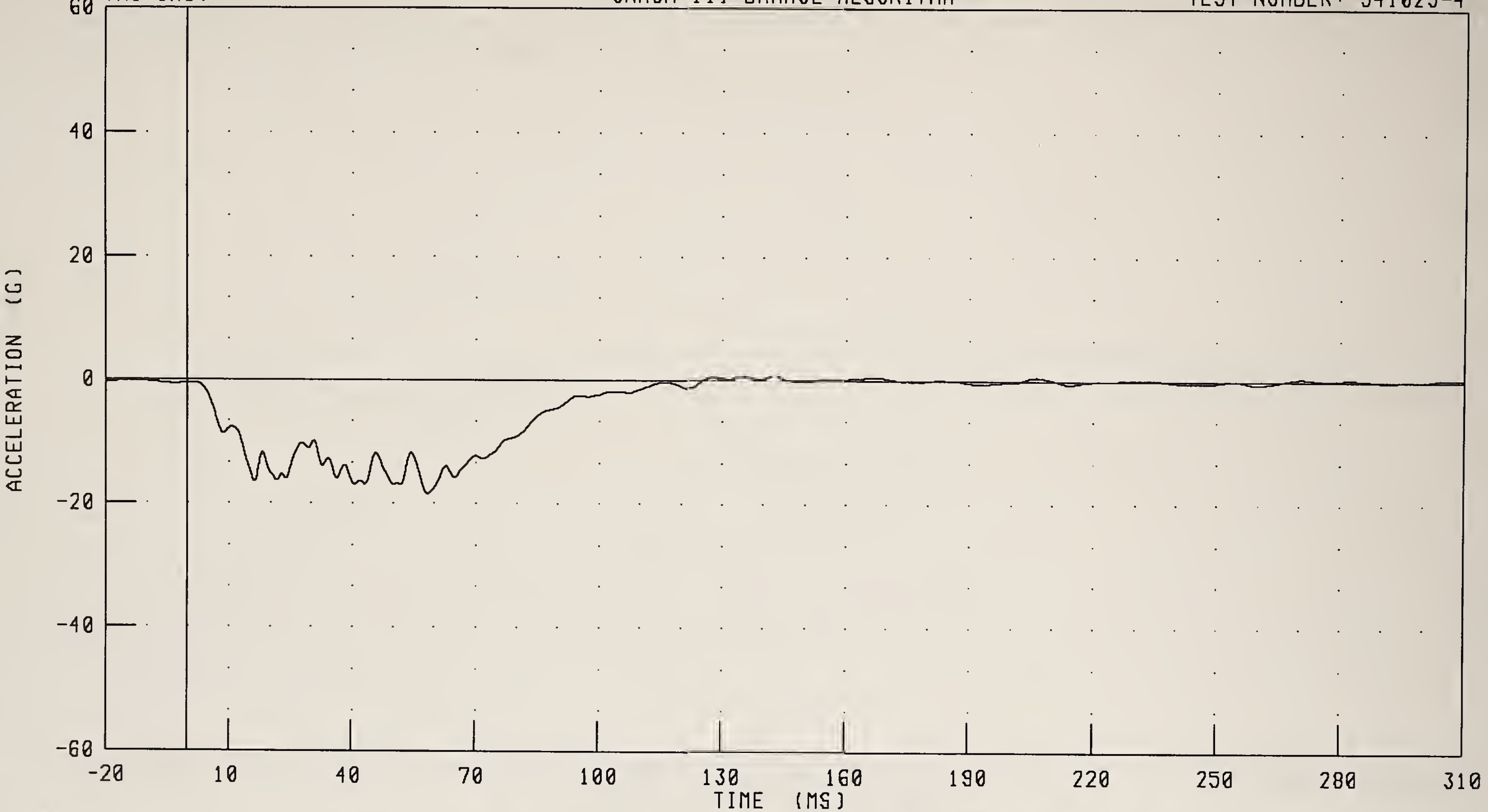


CHANNEL: VCGRD FILTER: CH. CLASS 180 PEAK DATA: 331.15 MM @ 64.00 MS; -913.32 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-4

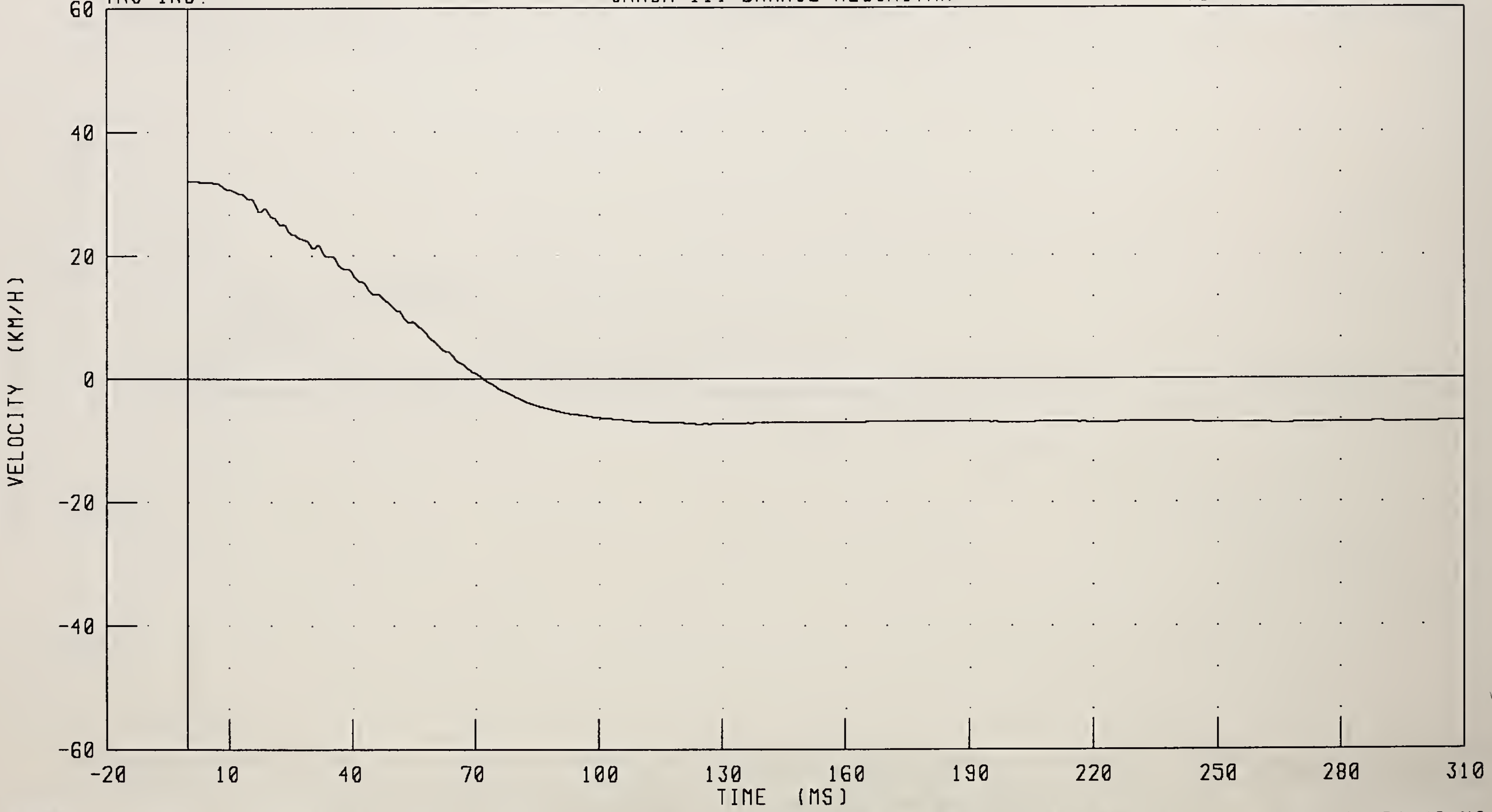


CHANNEL: LFSXG   FILTER: CH. CLASS 60   PEAK DATA: 0.72 G @ 143.04 MS; -18.47 G @ 58.56 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

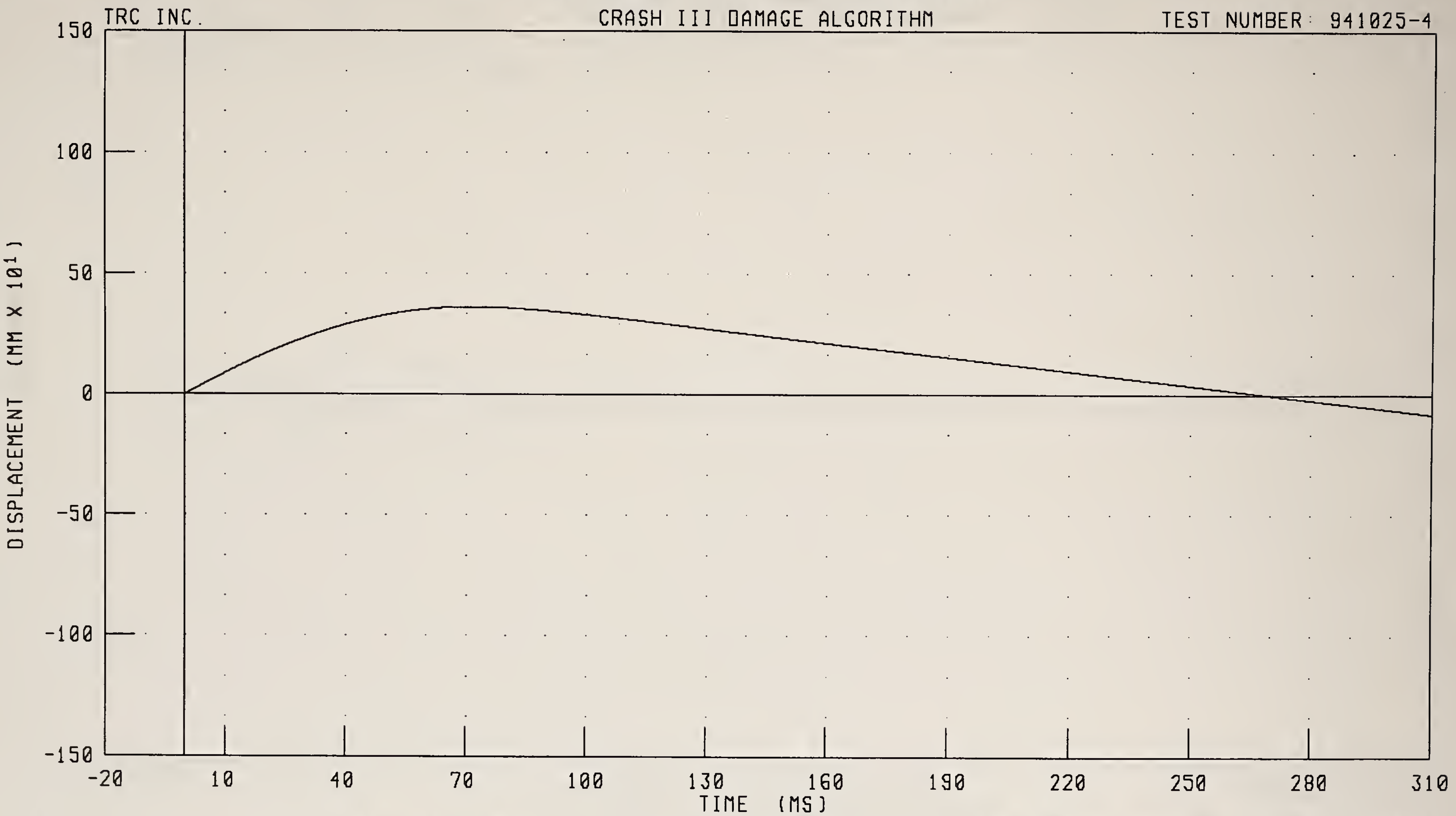
TRC INC.

TEST NUMBER: 941025-4



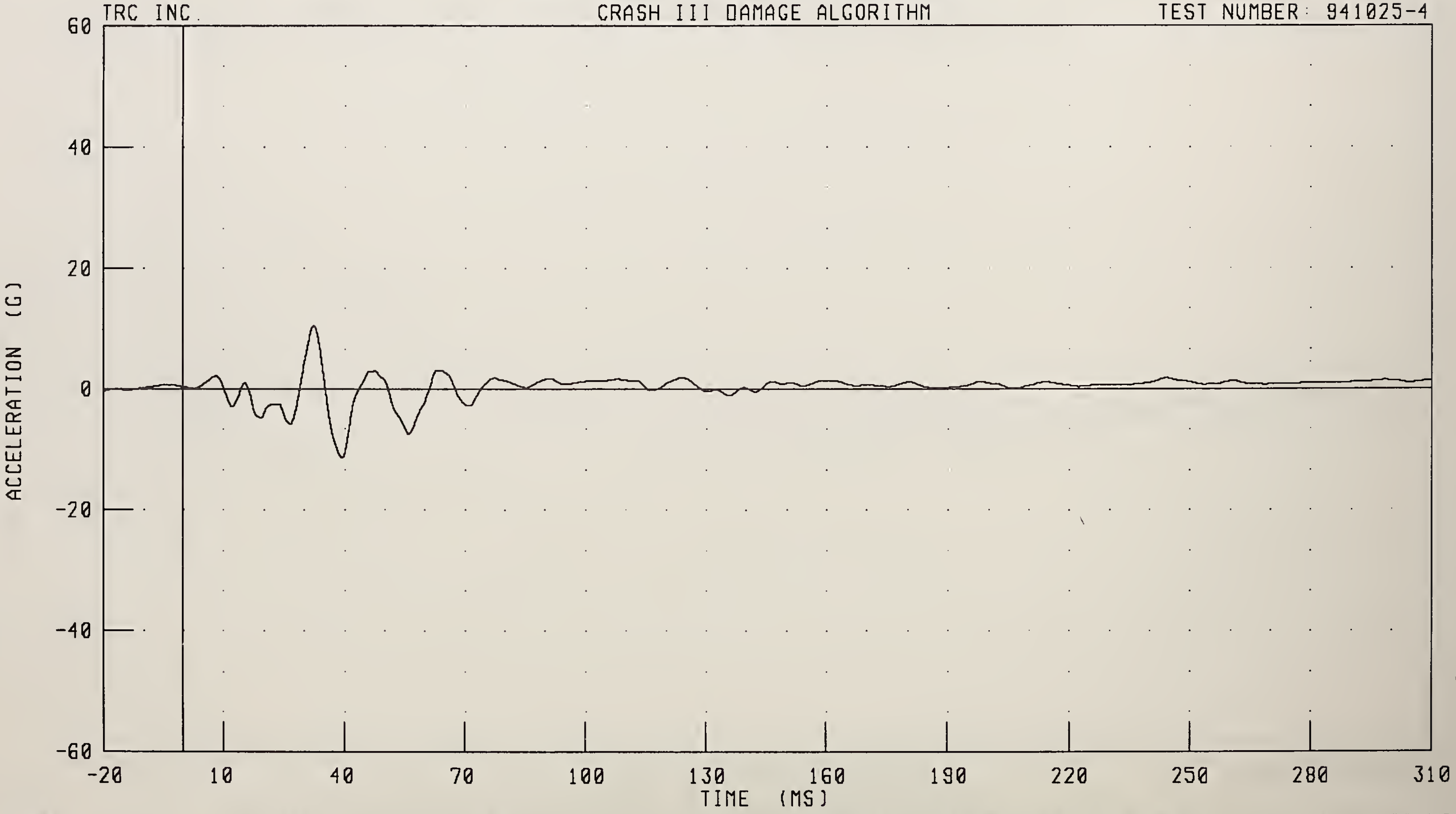
CHANNEL: LFSXV FILTER: CH. CLASS 180 PEAK DATA: 32.00 KM/H @ 0.00 MS; -7.39 KM/H @ 124.40 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



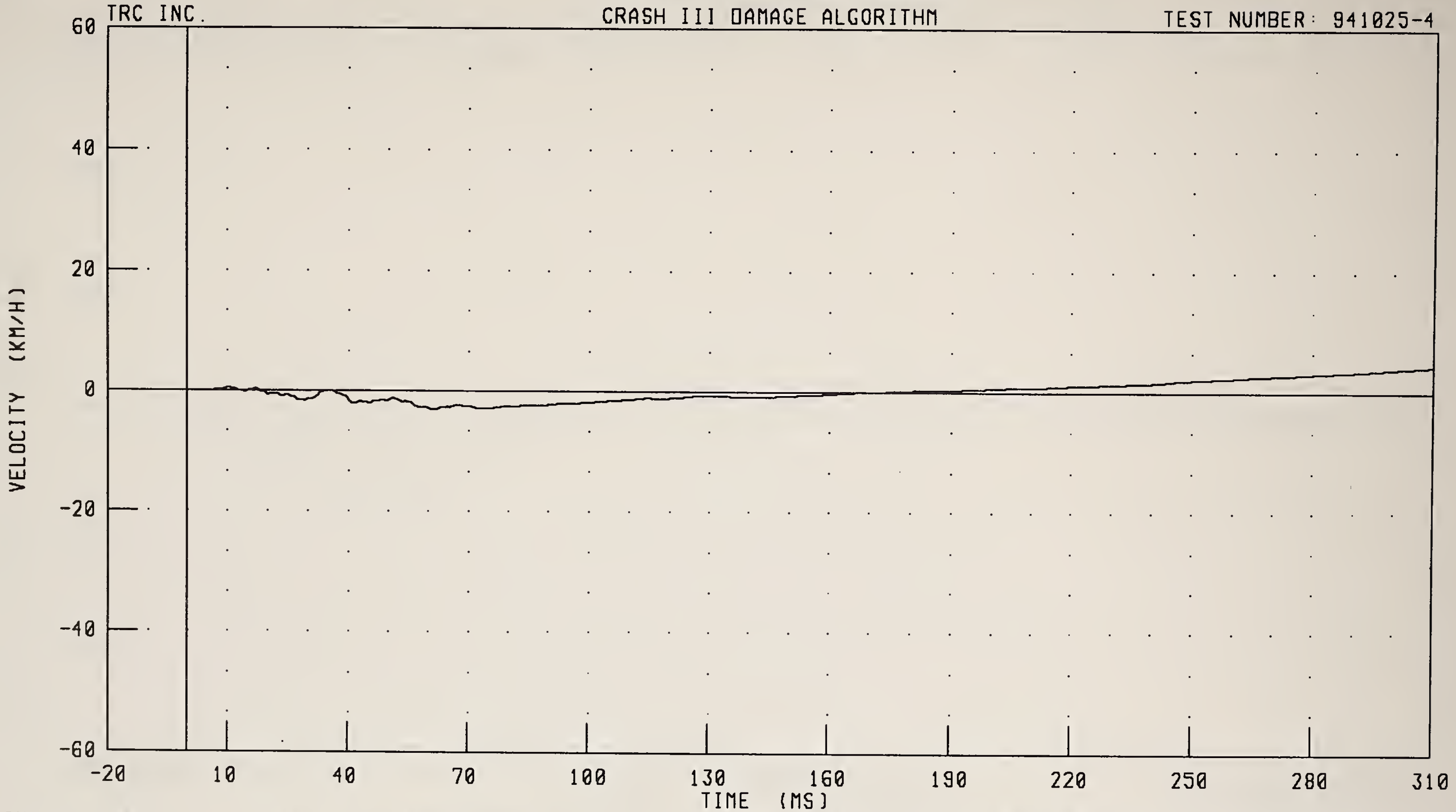
CHANNEL: LFSXD FILTER: CH. CLASS 180 PEAK DATA: 362.11 MM @ 72.00 MS; -80.10 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT FRONT SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



CHANNEL: LFSYG FILTER: CH. CLASS 60 PEAK DATA: 10.56 G @ 32.56 MS; -11.28 G @ 39.52 MS

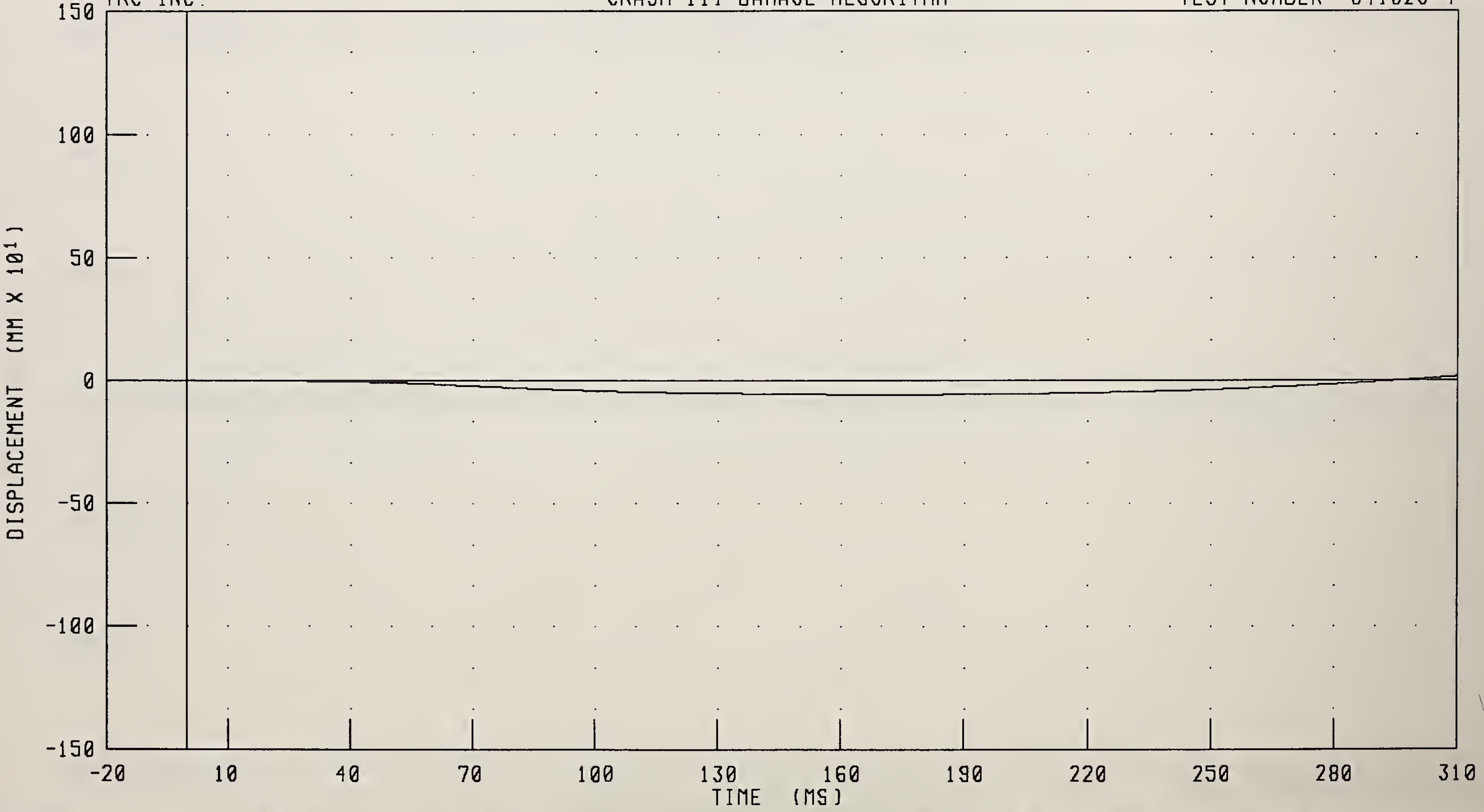
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: LFSYV FILTER: CH. CLASS 180 PEAK DATA: 4.36 KM/H @ 310.00 MS; -3.10 KM/H @ 61.84 MS

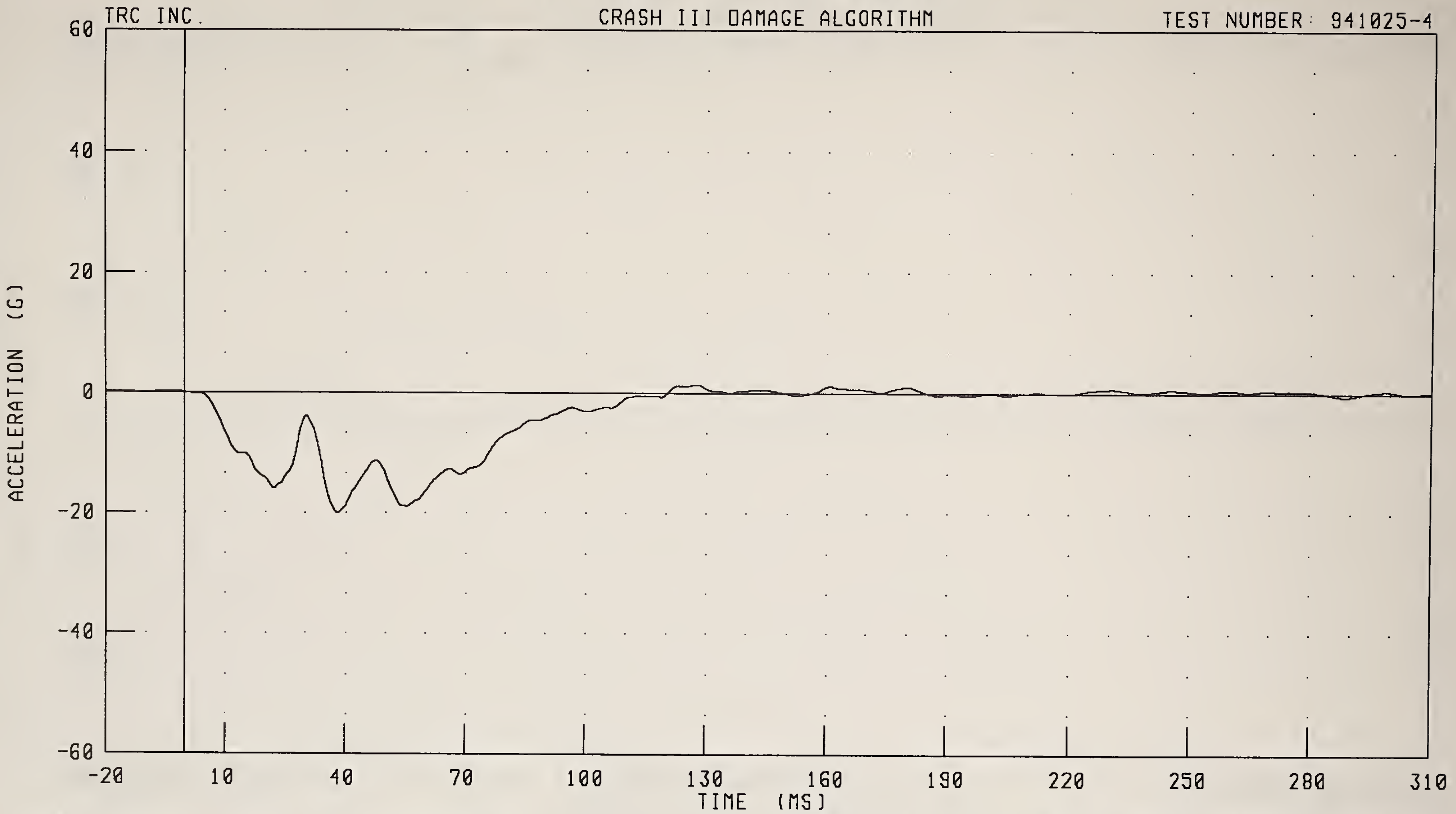
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT FRONT SILL Y-AXIS DISPLACEMENT

TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-4



CHANNEL: LFSYD FILTER: CH. CLASS 180 PEAK DATA: 15.70 MM @ 310.00 MS; -57.62 MM @ 169.84 MS

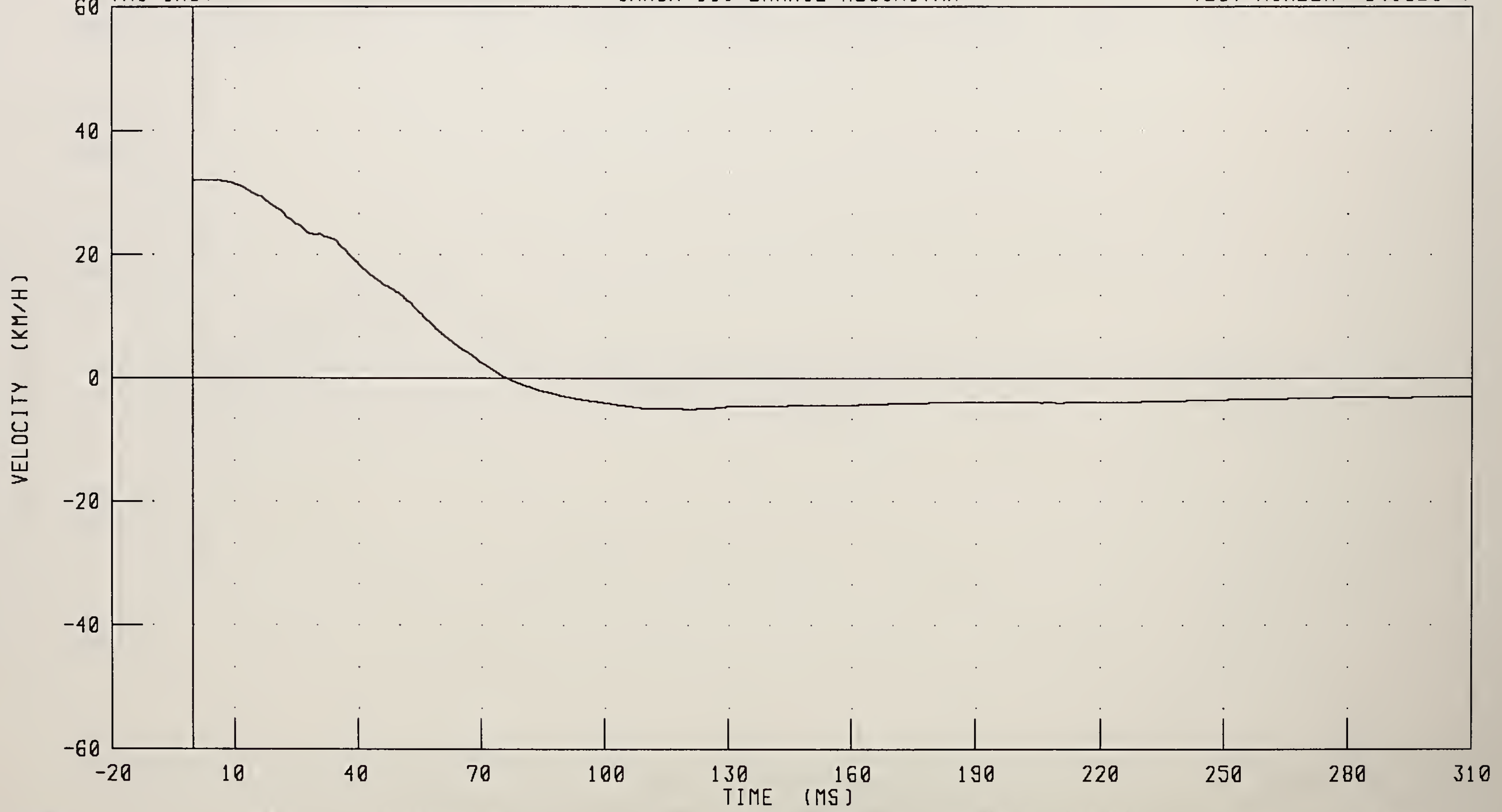
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



CHANNEL: RFSXG FILTER: CH. CLASS 60 PEAK DATA: 1.43 G @ 127.60 MS; -19.96 G @ 38.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC. TEST NUMBER: 941025-4

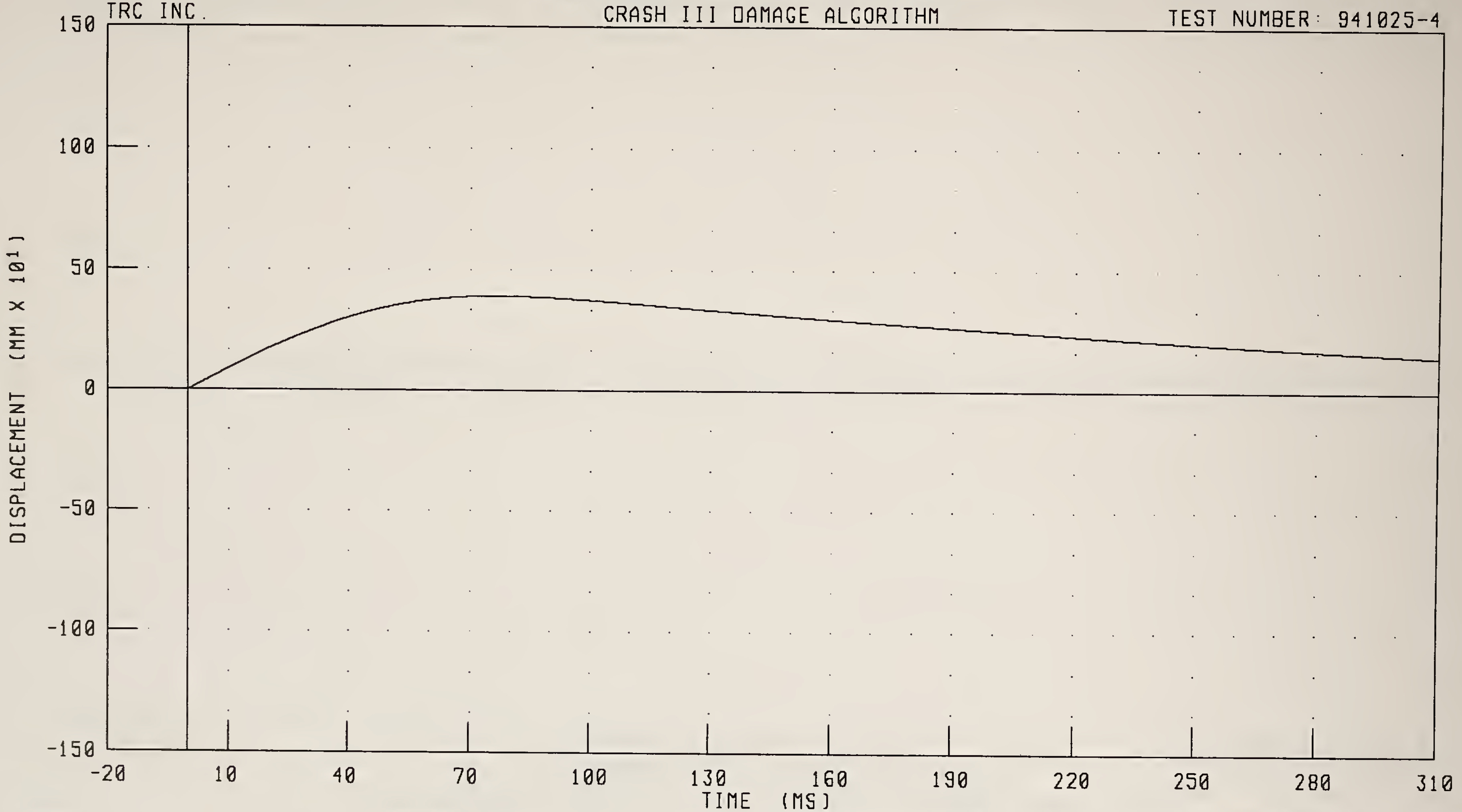


CHANNEL: RFSXV FILTER: CH. CLASS 180 PEAK DATA: 32.00 KM/H @ 1.44 MS; -5.08 KM/H @ 120.64 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

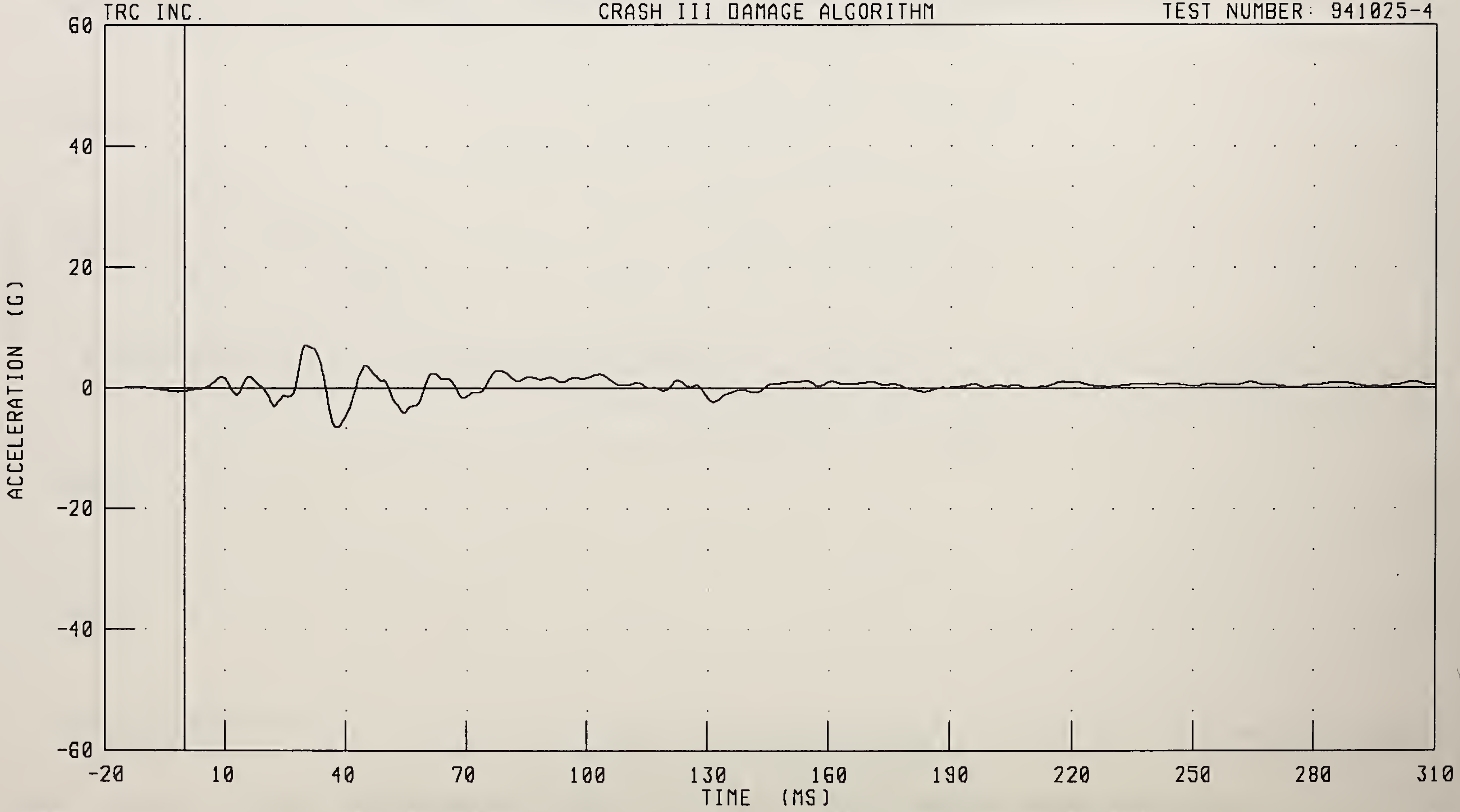
TEST NUMBER: 941025-4



CHANNEL: RFSXD FILTER: CH. CLASS 180

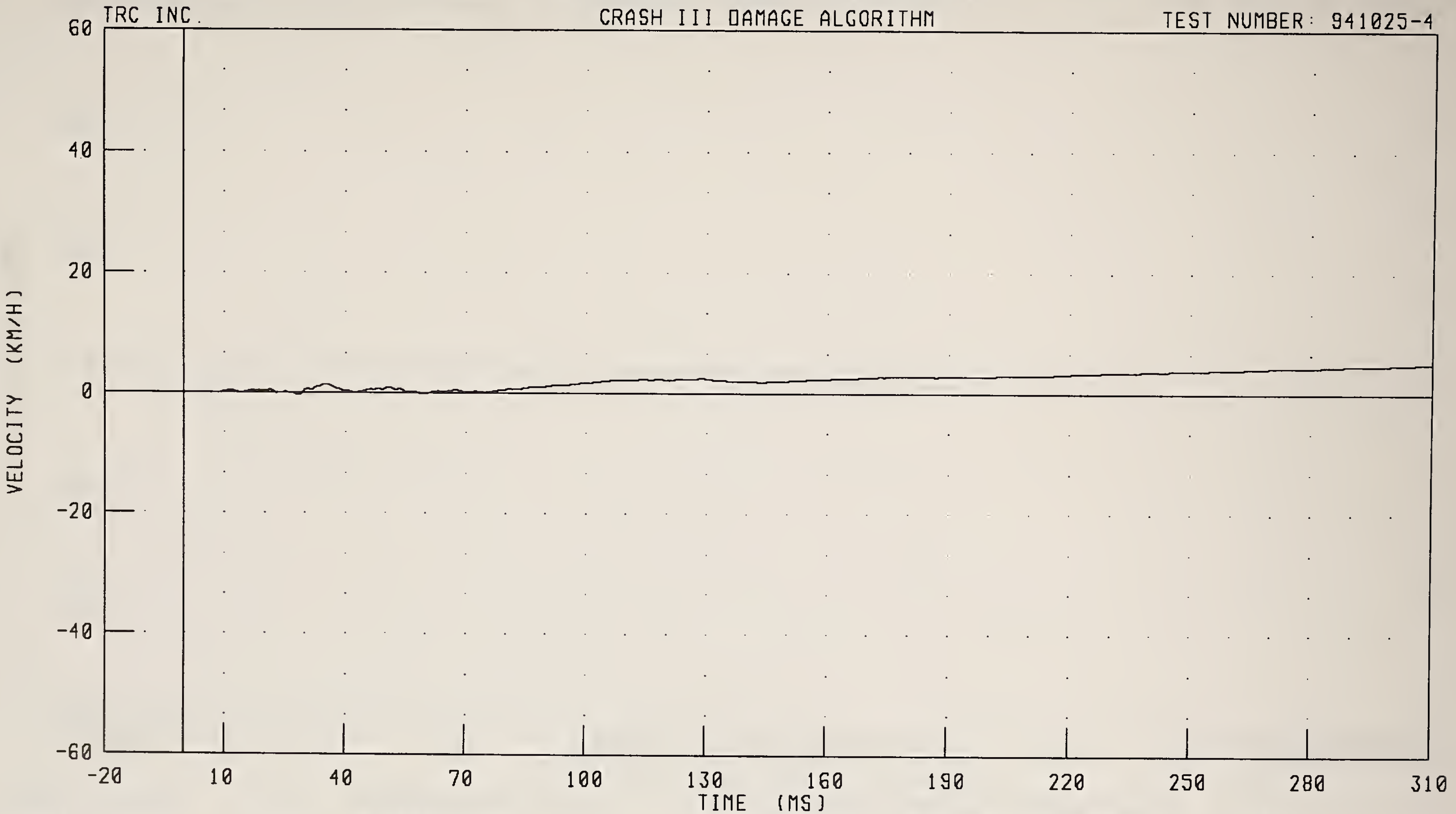
PEAK DATA: 390.41 MM @ 76.24 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT FRONT SILL Y-AXIS ACCELERATION



CHANNEL: RFSYG FILTER: CH. CLASS 60 PEAK DATA: 7.13 G @ 30.16 MS; -6.49 G @ 37.92 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

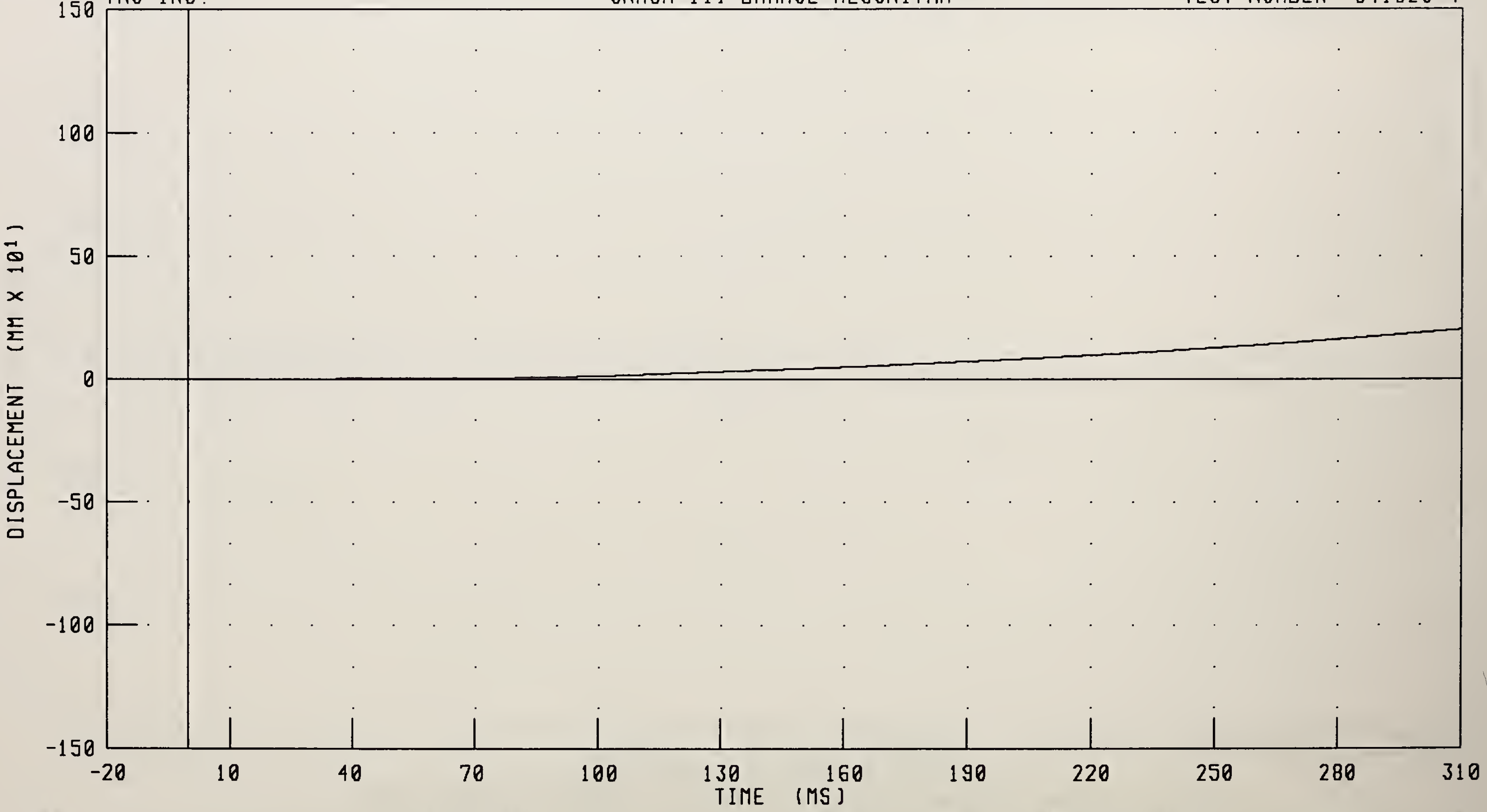


CHANNEL: RFSYV FILTER: CH. CLASS 180 PEAK DATA: 5.09 KM/H @ 310.00 MS; -0.36 KM/H @ 28.56 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT FRONT SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TRC INC.

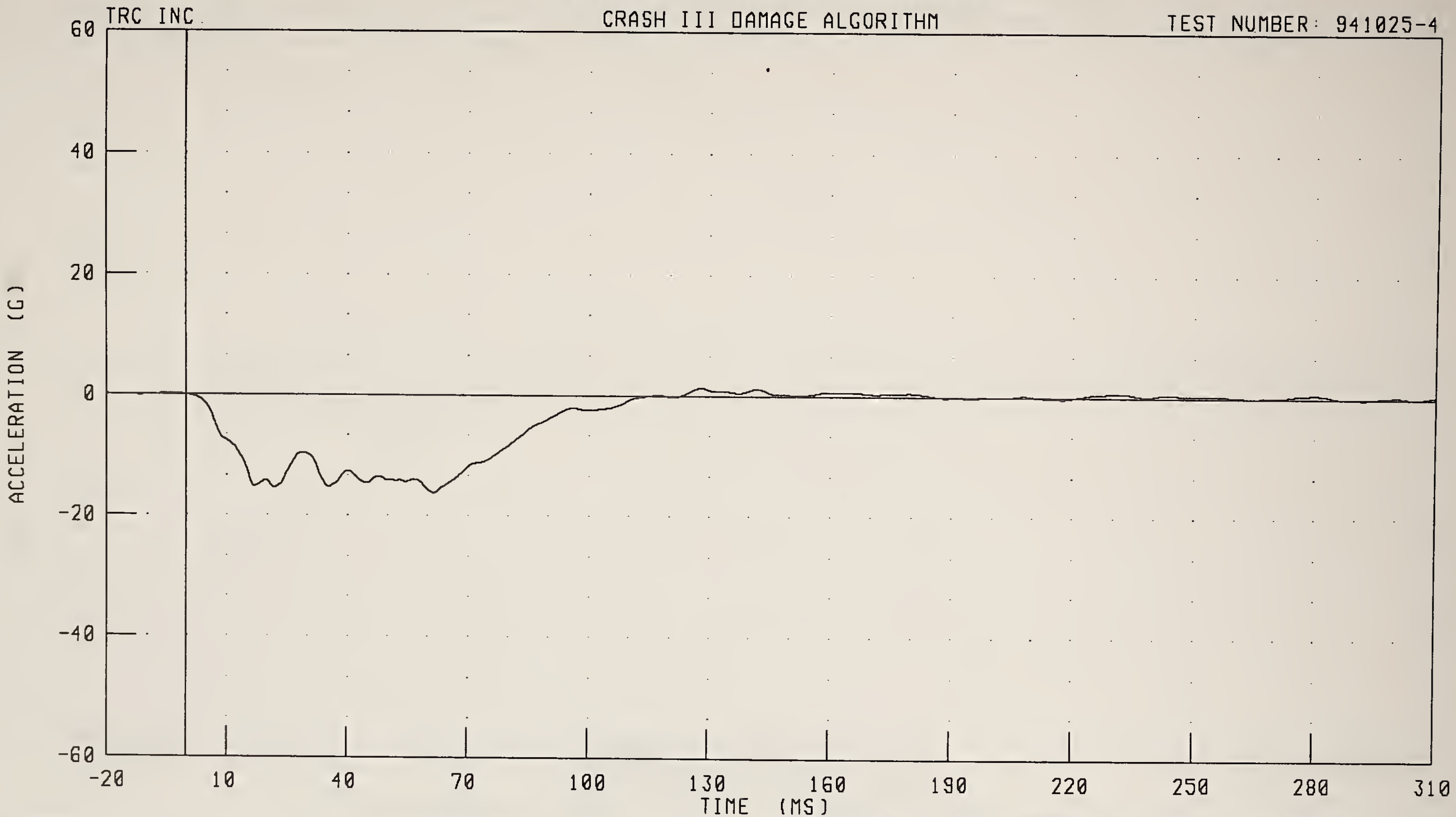
TEST NUMBER: 941025-4



CHANNEL: RFSYD FILTER: CH. CLASS 180 PEAK DATA: 202.39 MM @ 310.00 MS; -0.05 MM @ 8.16 MS

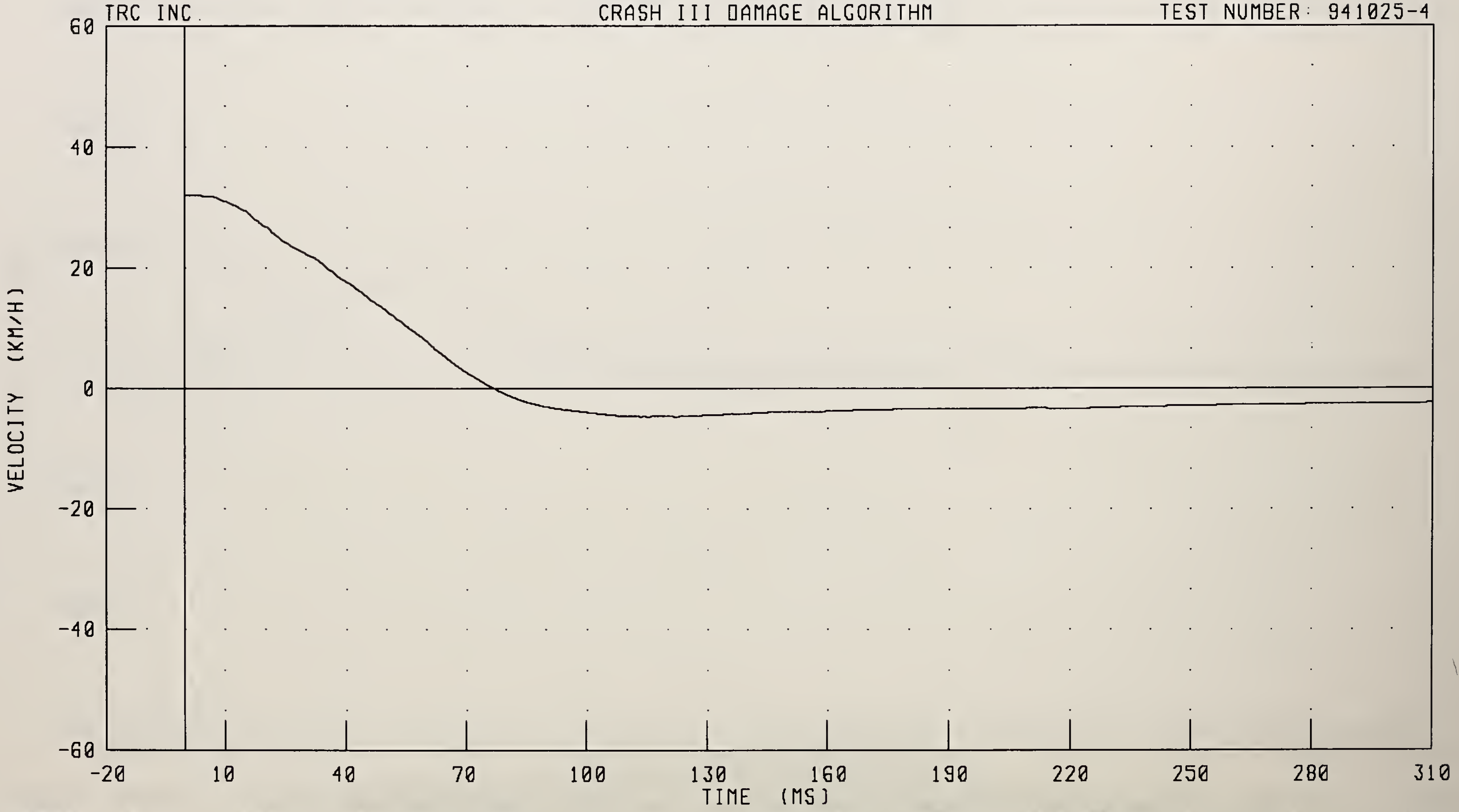
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-4

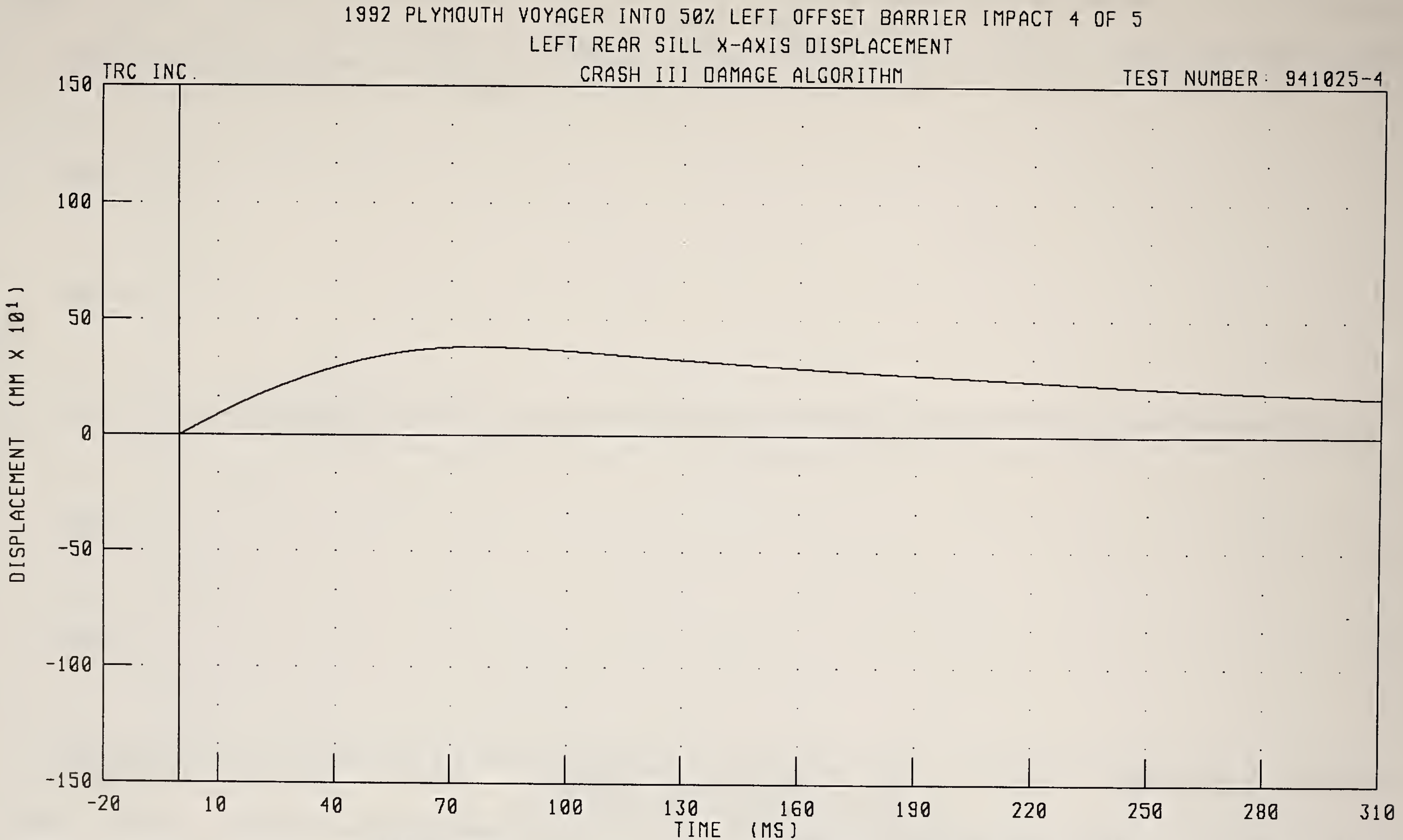


CHANNEL: LRSXG FILTER: CH. CLASS 60 PEAK DATA: 1.34 G @ 128.08 MS; -16.19 G @ 61.52 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



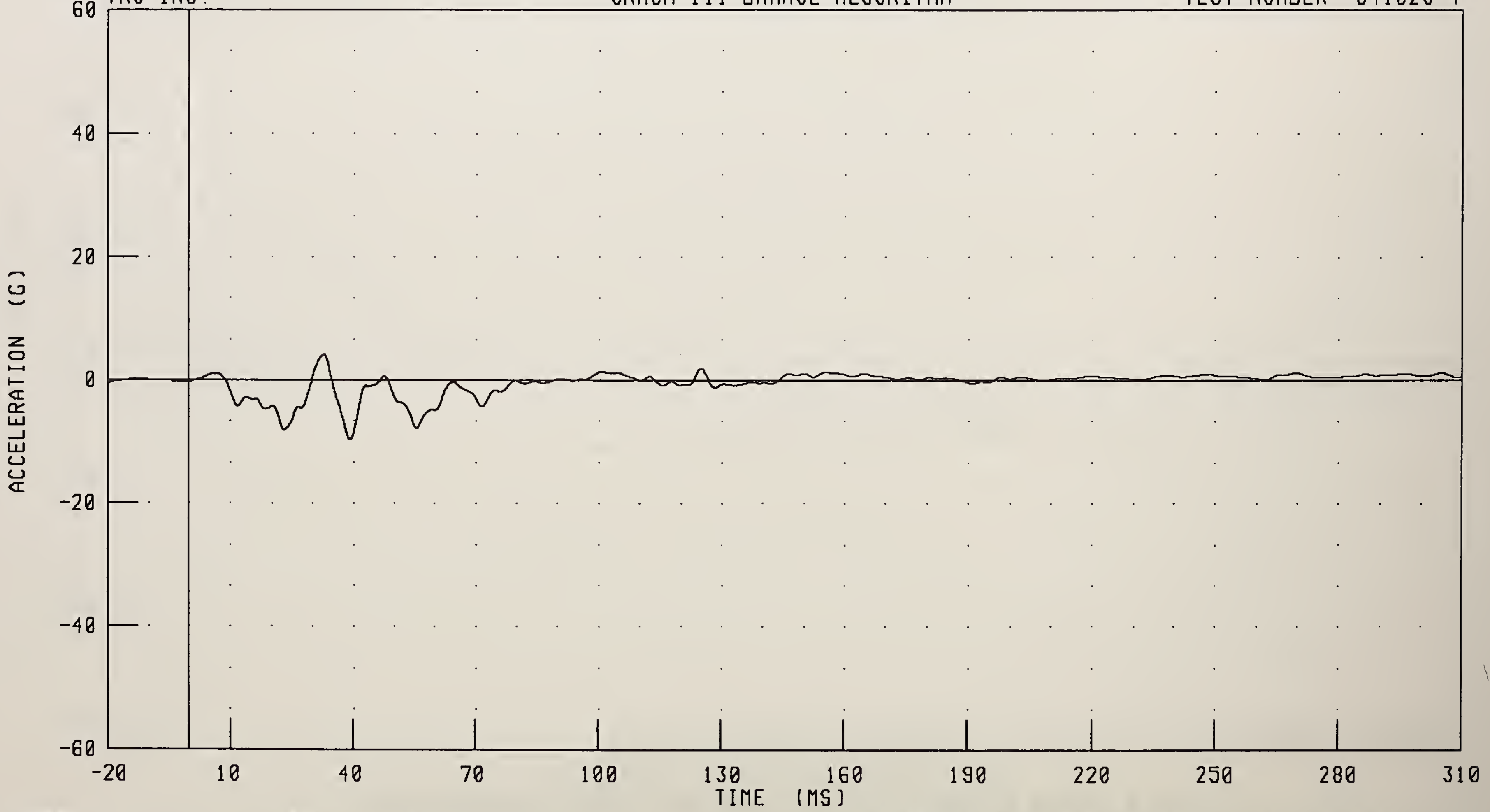
CHANNEL: LRSXV FILTER: CH. CLASS 180 PEAK DATA: 32.00 KM/H @ 1.04 MS; -4.67 KM/H @ 122.24 MS



1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

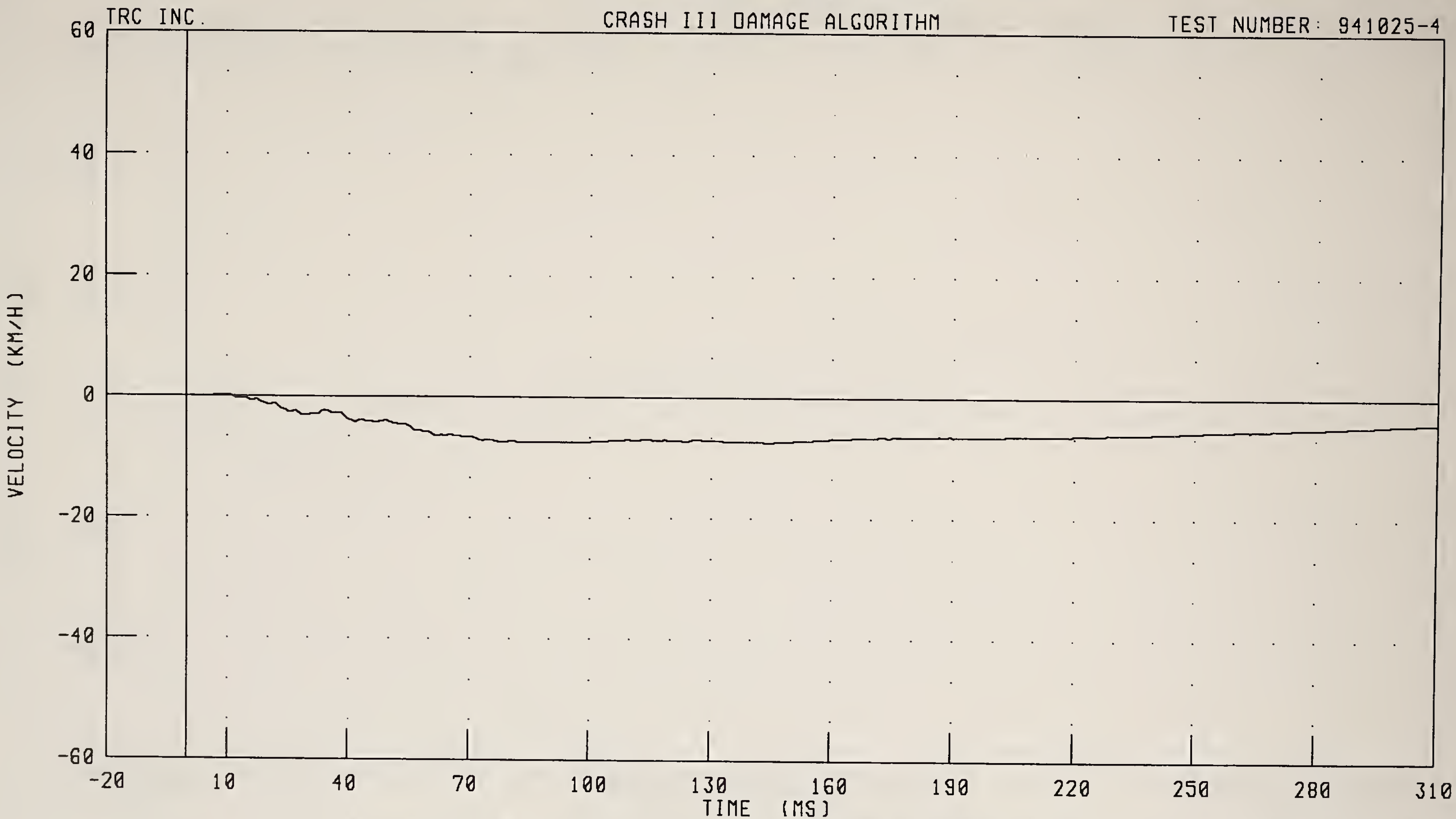
CHANNEL: LRSXD FILTER: CH. CLASS 180 PEAK DATA: 381.39 MM @ 77.04 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT REAR SILL Y-AXIS ACCELERATION
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-4



CHANNEL: LRSYG FILTER: CH. CLASS 60 PEAK DATA: 4.25 G @ 32.80 MS; -9.67 G @ 39.28 MS

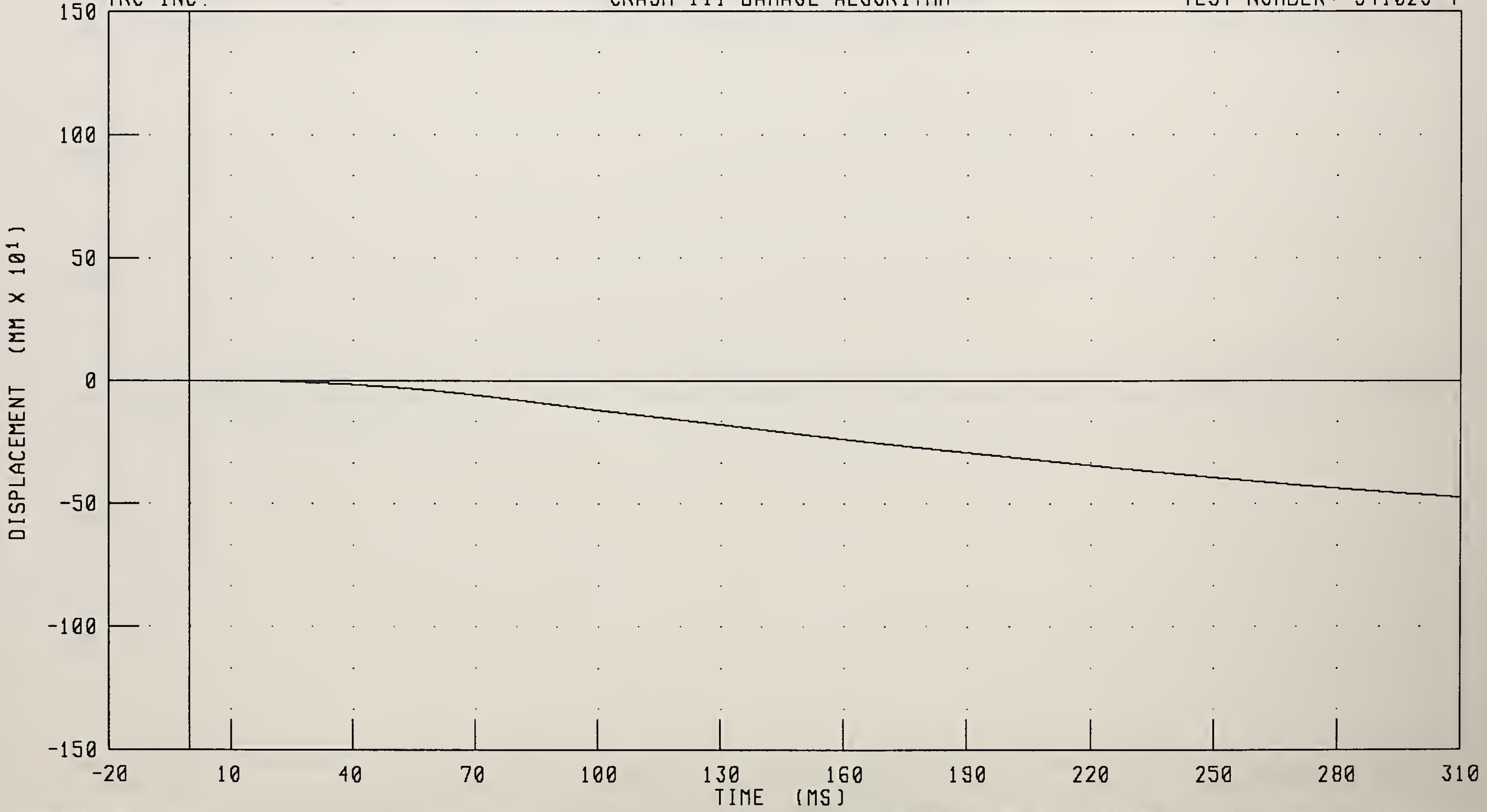
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT REAR SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: LRSYV FILTER: CH. CLASS 180 PEAK DATA: 0.25 KM/H @ 10.32 MS; -7.48 KM/H @ 88.40 MS

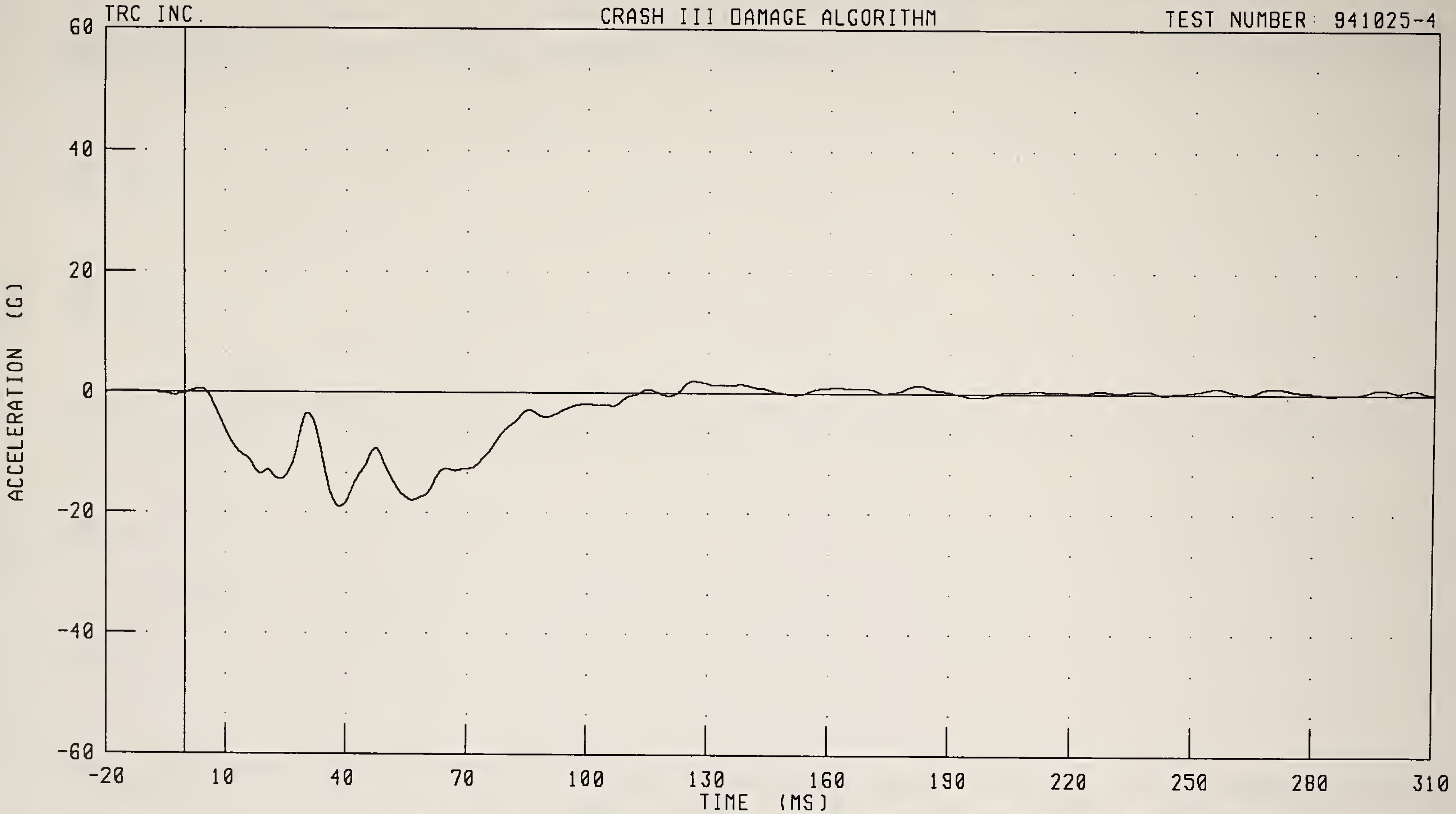
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
LEFT REAR SILL Y-AXIS DISPLACEMENT

TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-4



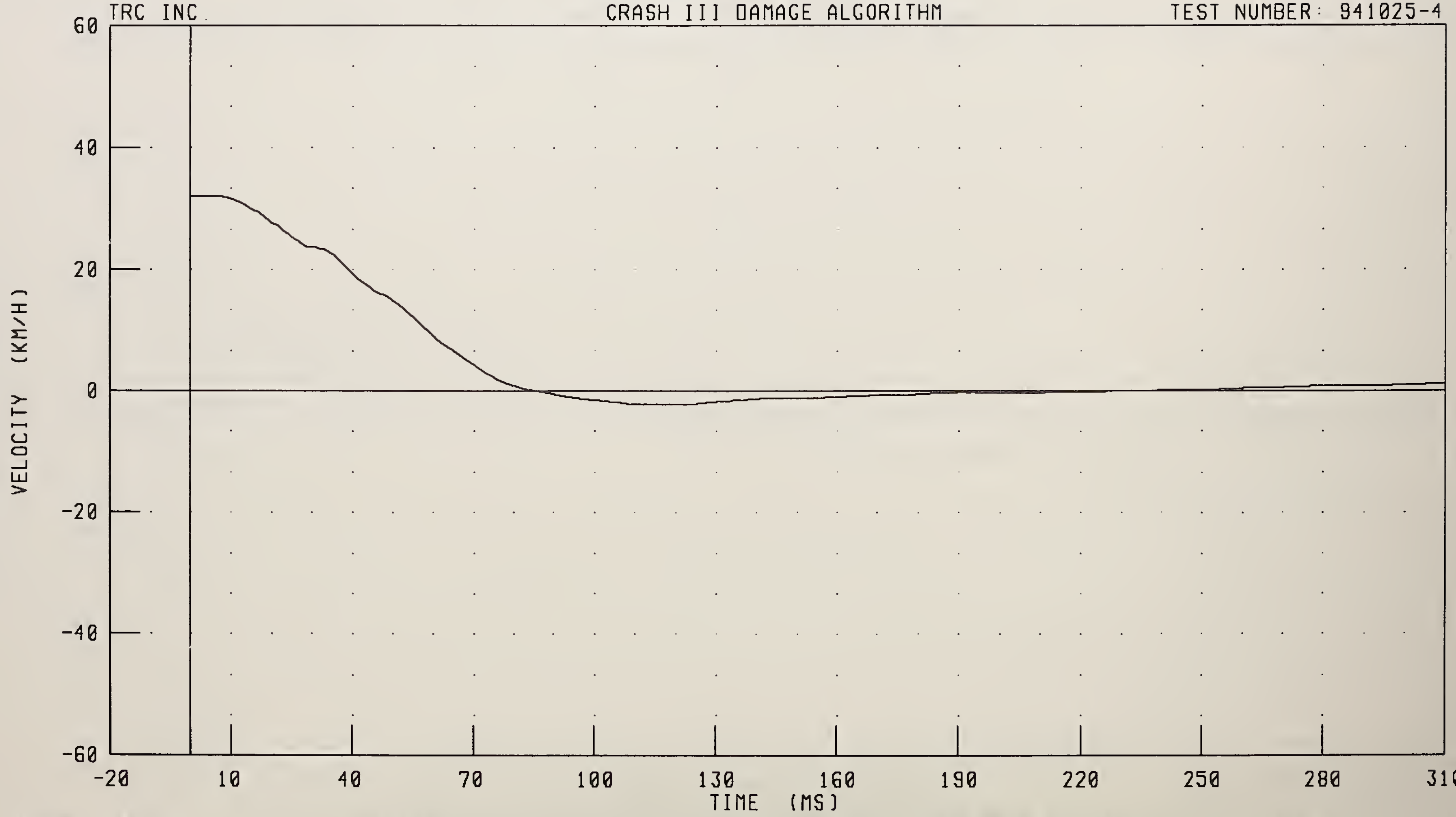
CHANNEL: LRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.24 MM @ 11.44 MS; -474.16 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



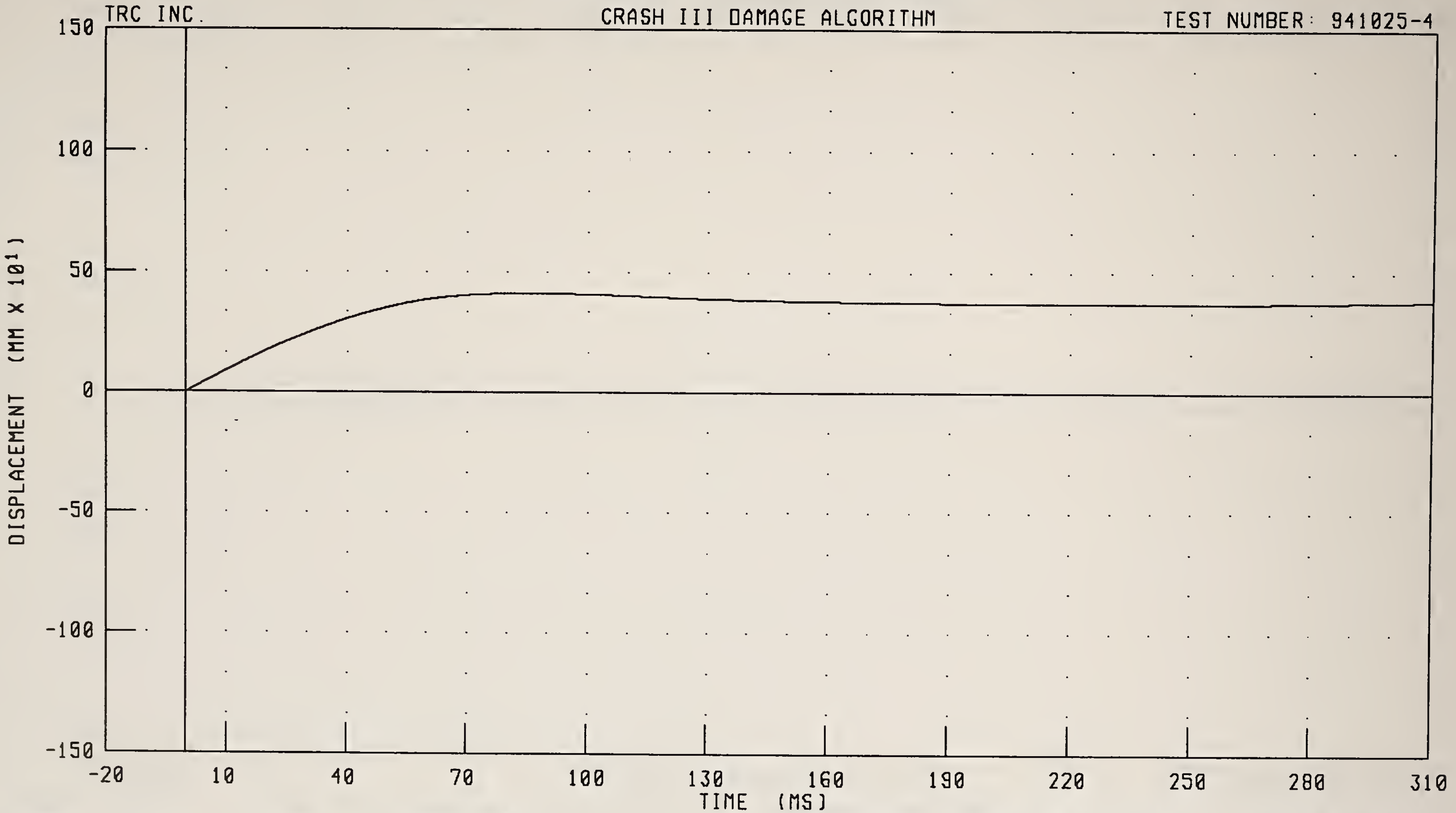
CHANNEL: RRSXG   FILTER: CH. CLASS 60   PEAK DATA: 2.00 G @ 126.40 MS; -18.95 G @ 38.48 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



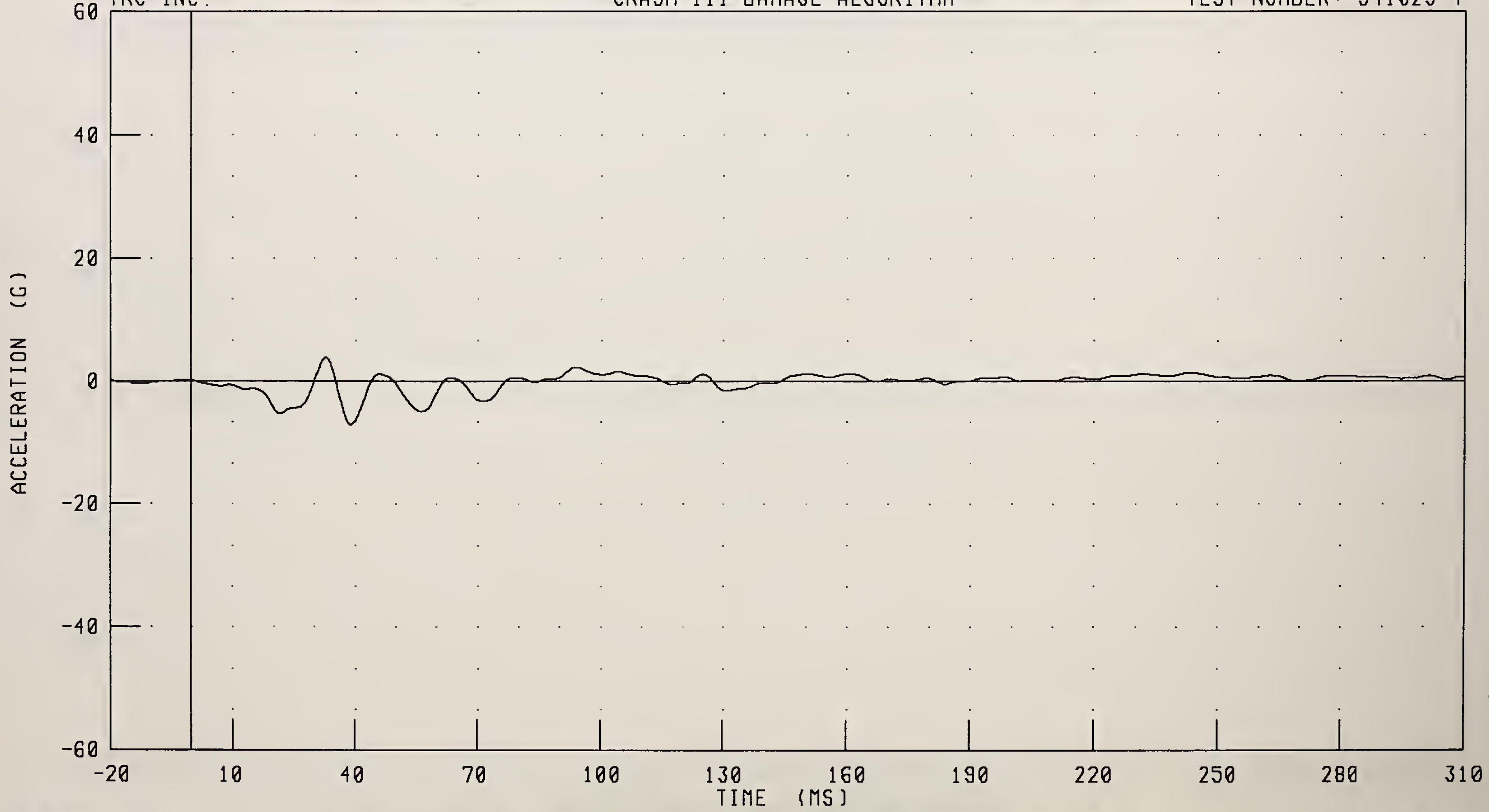
CHANNEL: RRSXV FILTER: CH. CLASS 180 PEAK DATA: 32.07 KM/H @ 6.64 MS; -2.23 KM/H @ 113.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



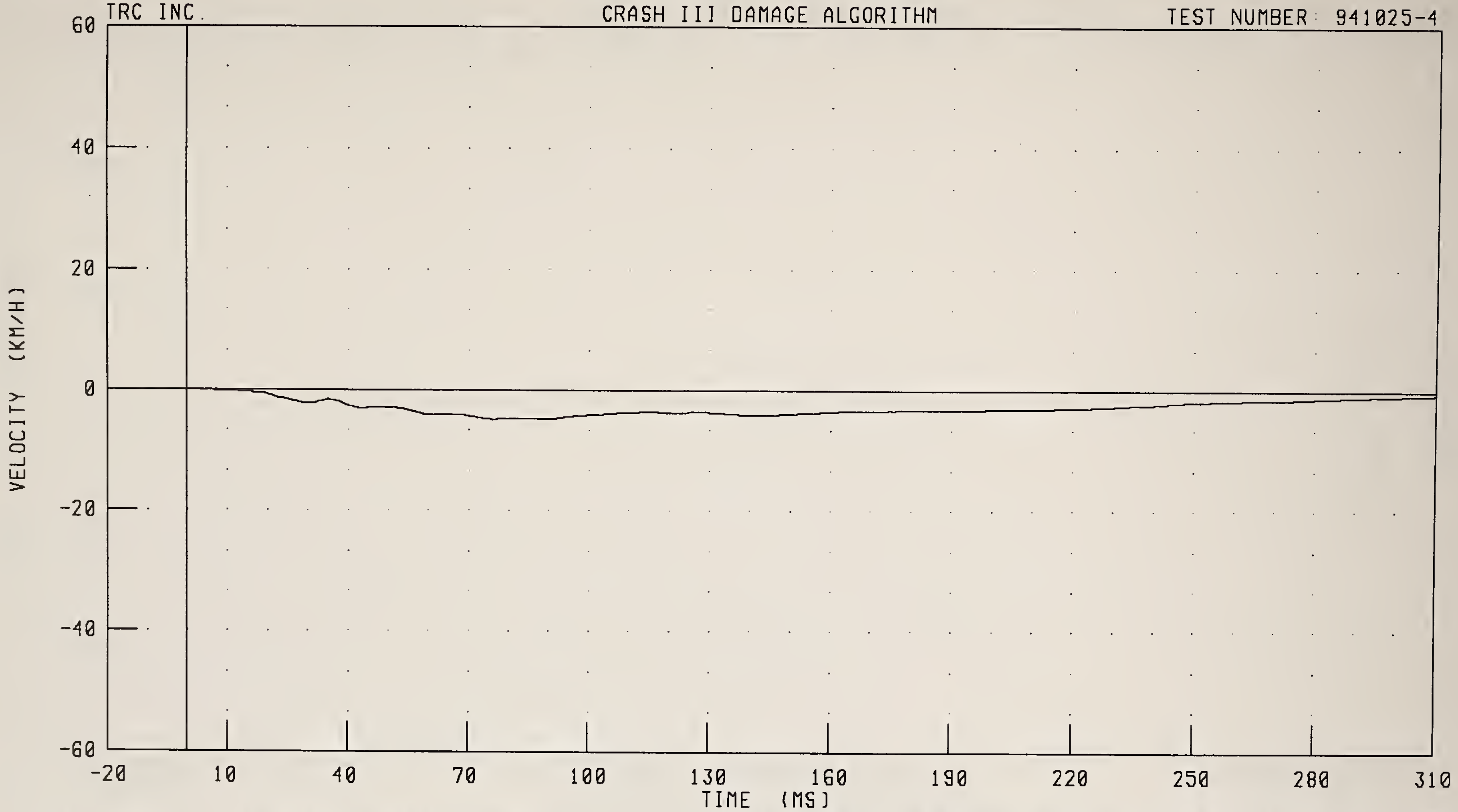
CHANNEL: RRSXD FILTER: CH. CLASS 180 PEAK DATA: 410.80 MM @ 85.84 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT REAR SILL Y-AXIS ACCELERATION
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-4



CHANNEL: RRSYG FILTER: CH. CLASS 60 PEAK DATA: 3.91 G @ 32.80 MS; -7.04 G @ 39.04 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT REAR SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

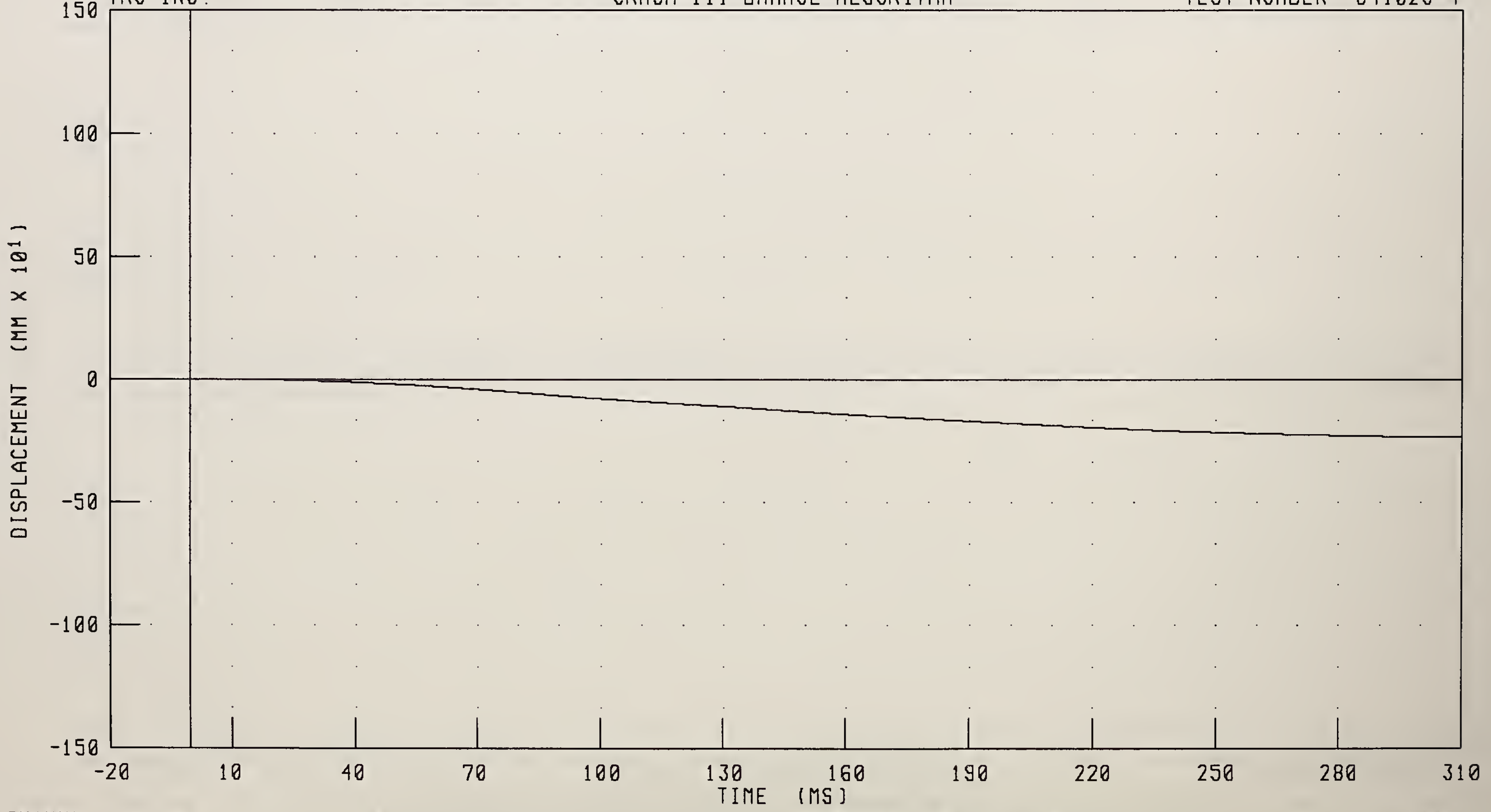


TEST NUMBER: 941025-4

CHANNEL: RRSYV FILTER: CH. CLASS 180 PEAK DATA: 0.02 KM/H @ 1.20 MS; -4.83 KM/H @ 76.16 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 4 OF 5
RIGHT REAR SILL Y-AXIS DISPLACEMENT

TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-4



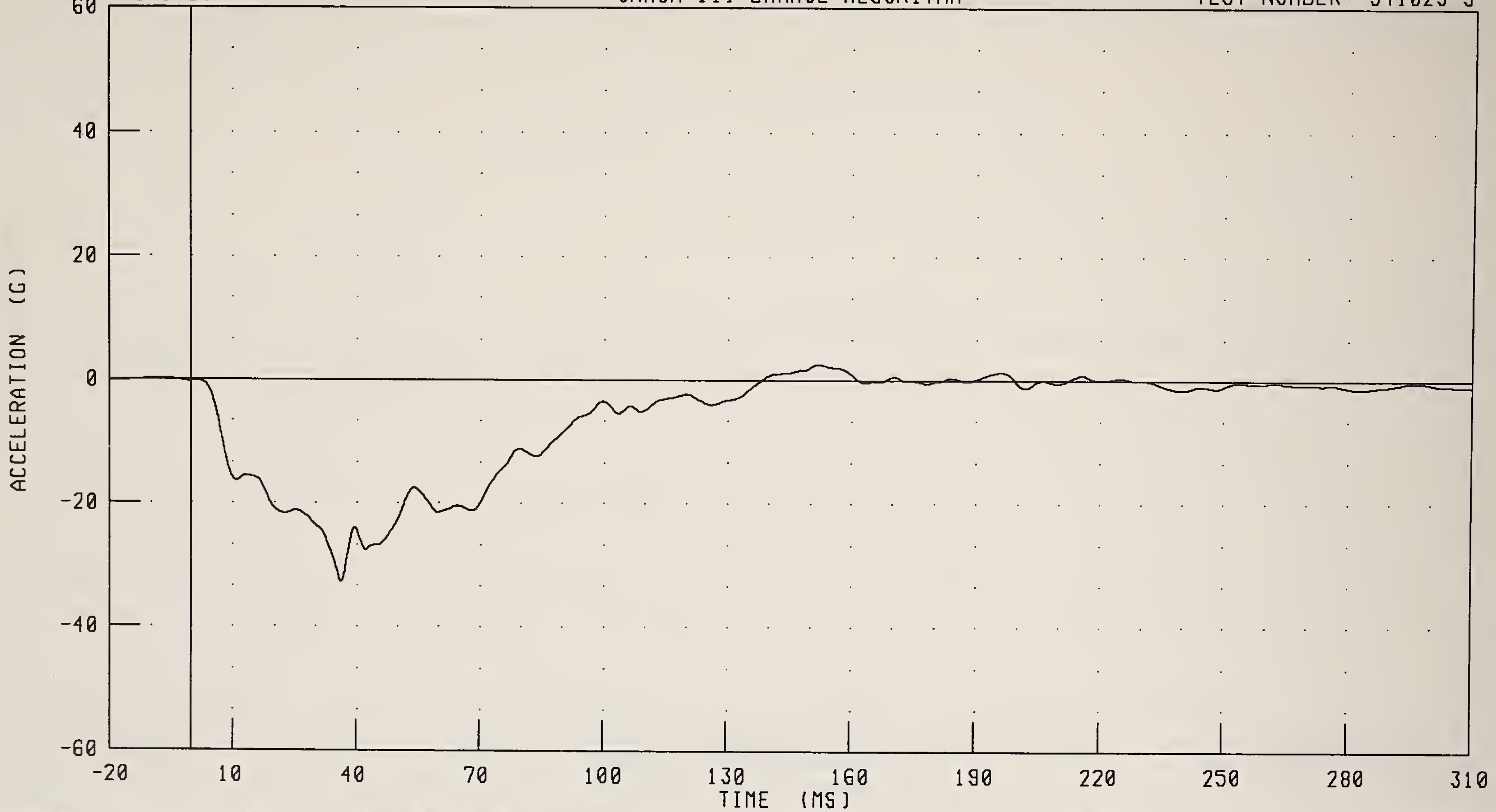
CHANNEL: RRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.01 MM @ 2.32 MS; -234.64 MM @ 310.00 MS

Data Plots

Test No. 941025-5

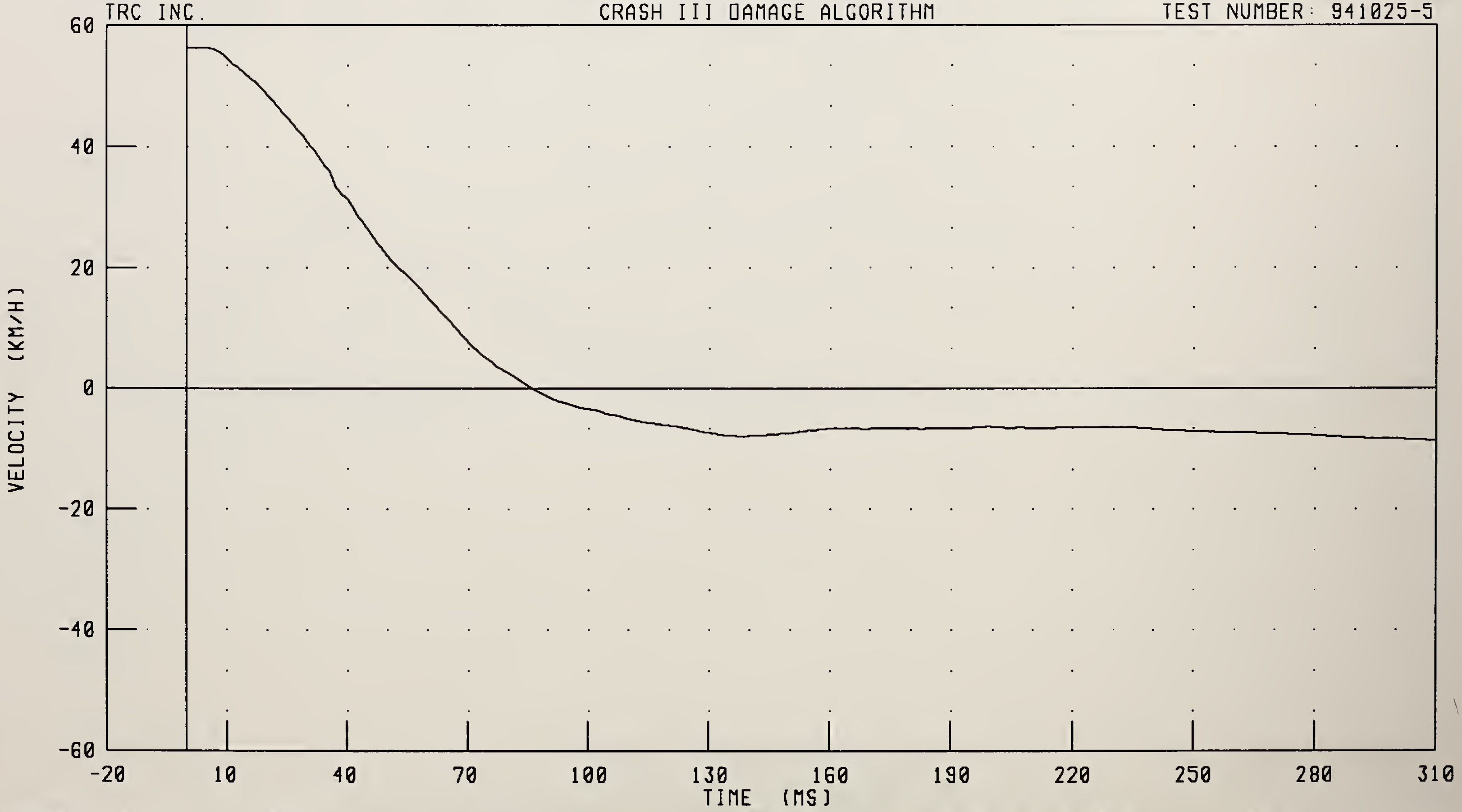
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TRC INC.
TEST NUMBER: 941025-5



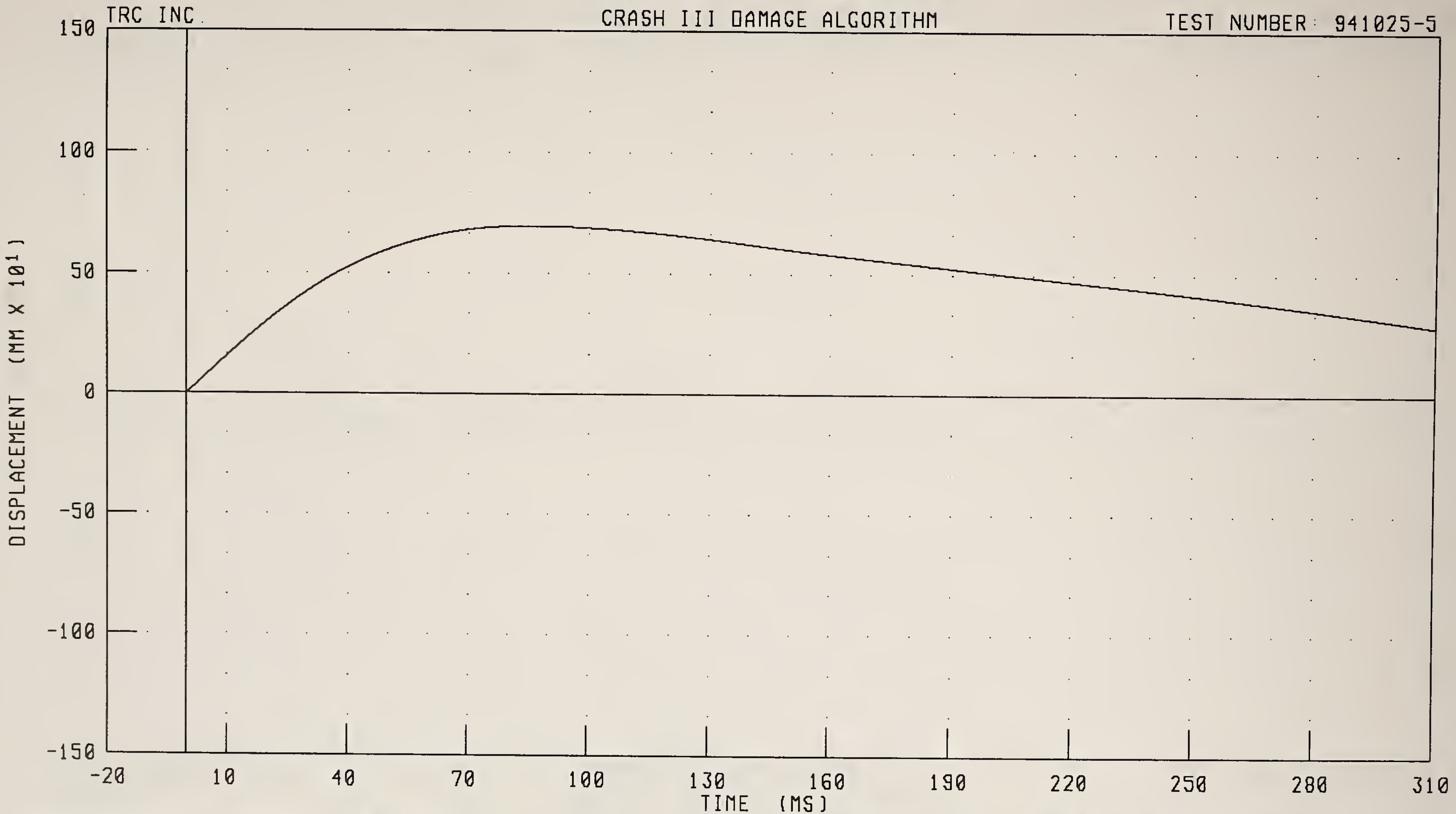
CHANNEL: VCGXG FILTER: CH. CLASS 60 PEAK DATA: 2.59 G @ 152.08 MS; -32.72 G @ 36.32 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



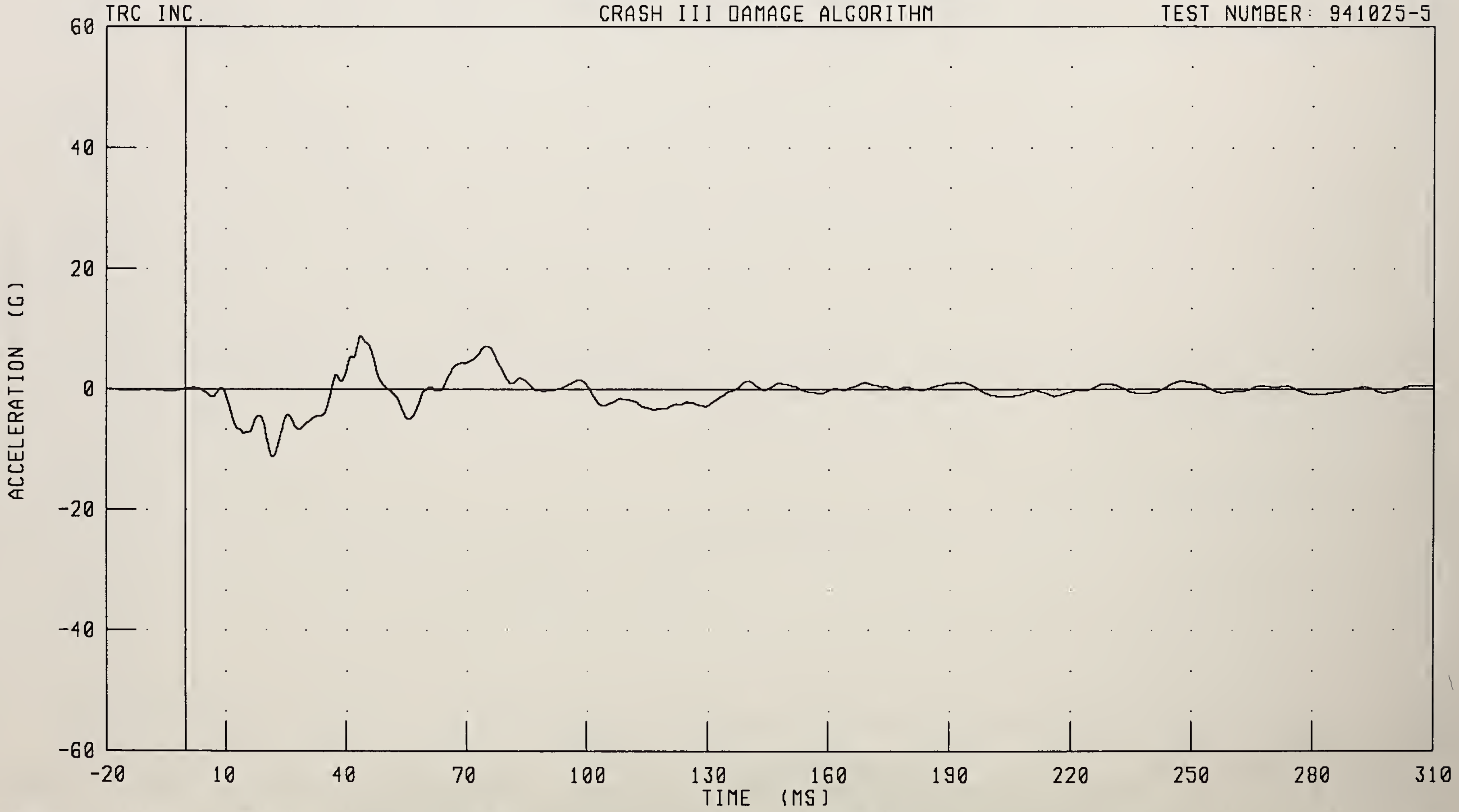
CHANNEL: VCGXV FILTER: CH. CLASS 180 PEAK DATA: 56.30 KM/H @ 0.00 MS; -8.63 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGXD FILTER: CH. CLASS 180 PEAK DATA: 696.72 MM @ 86.08 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

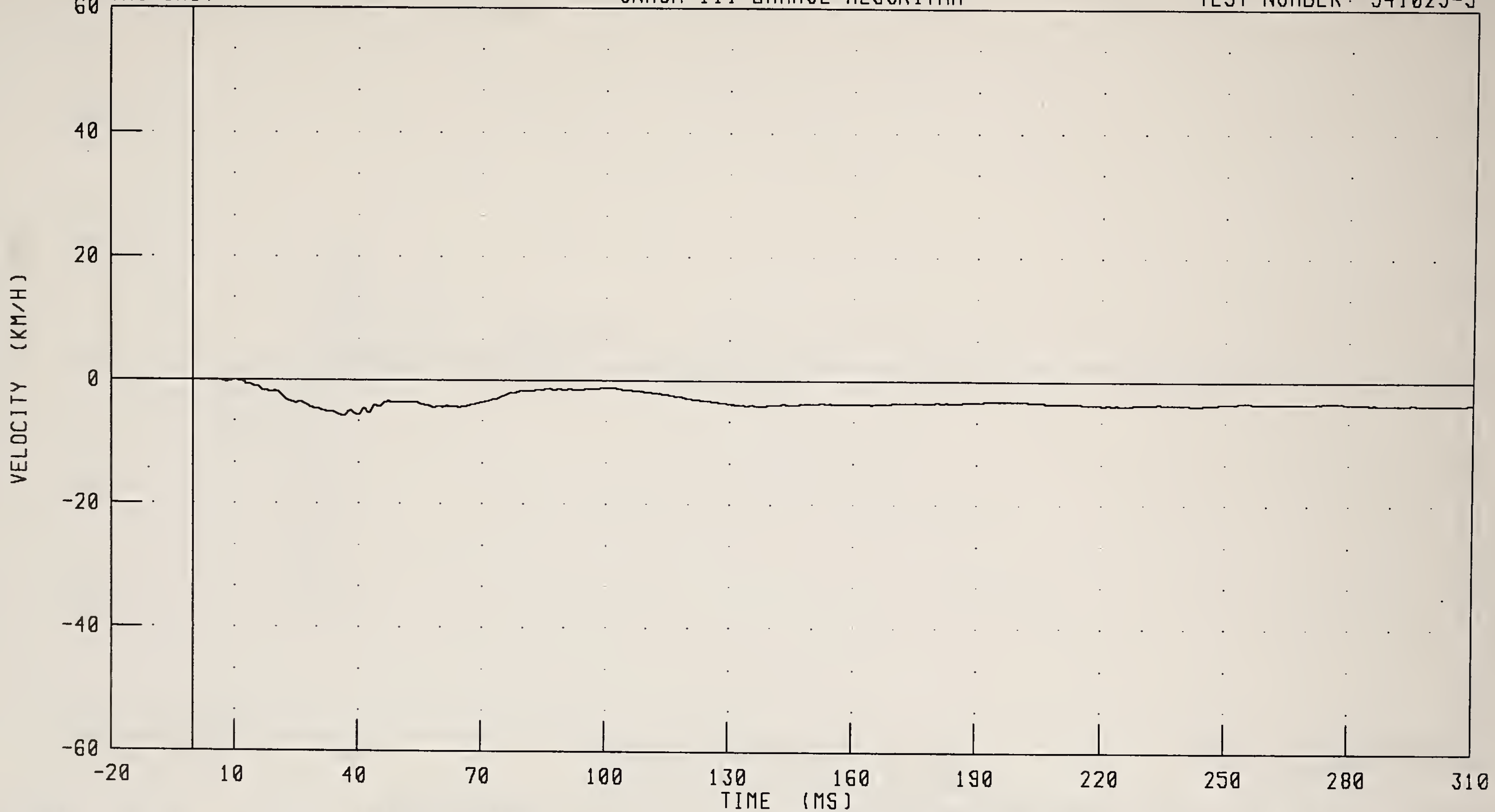


CHANNEL: VCGYG FILTER: CH. CLASS 60 PEAK DATA: 8.88 G @ 43.60 MS; -11.21 G @ 21.76 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

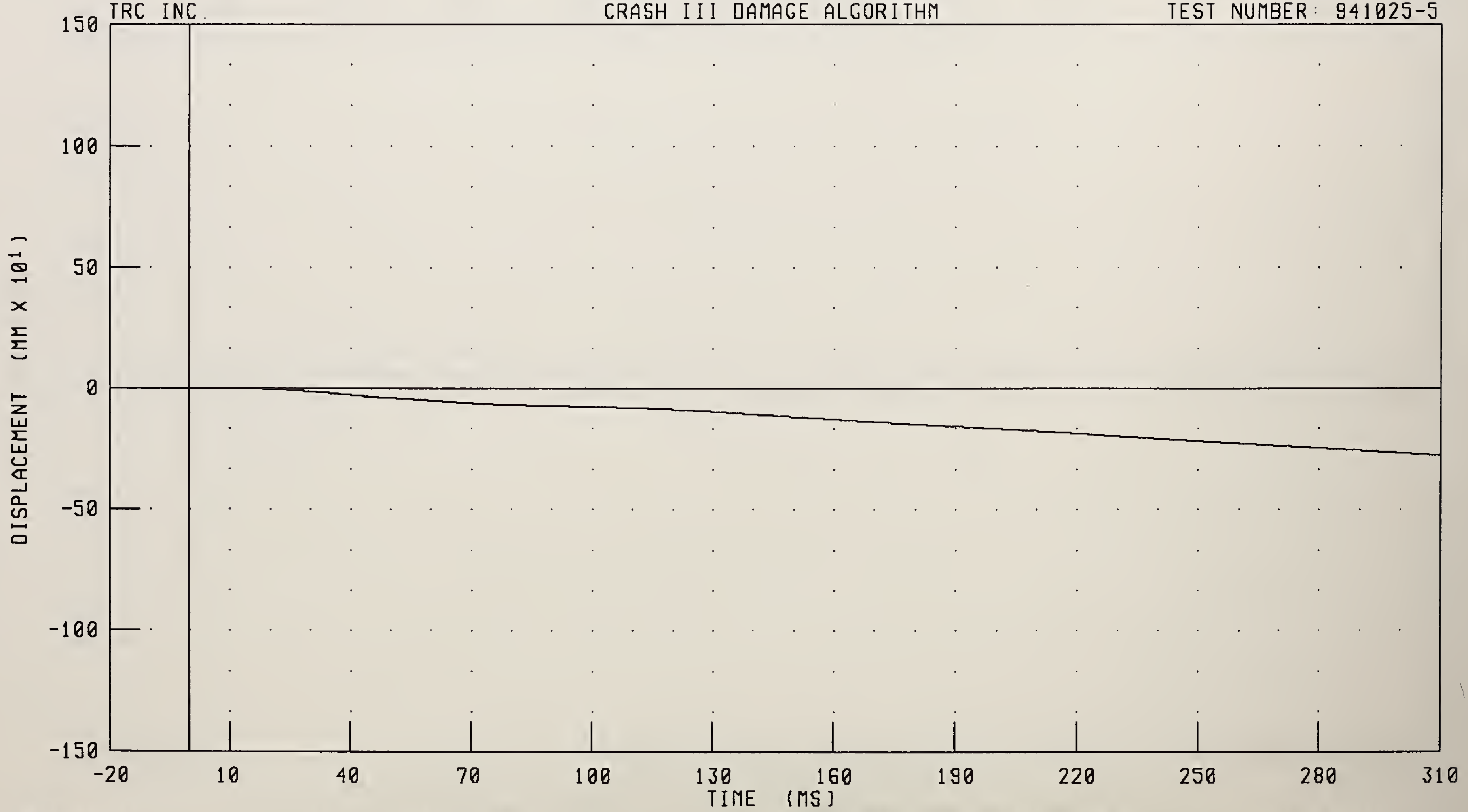
TEST NUMBER: 941025-5



CHANNEL: VCGYV FILTER: CH. CLASS 180 PEAK DATA: 0.06 KM/H @ 5.92 MS; -5.81 KM/H @ 36.56 MS

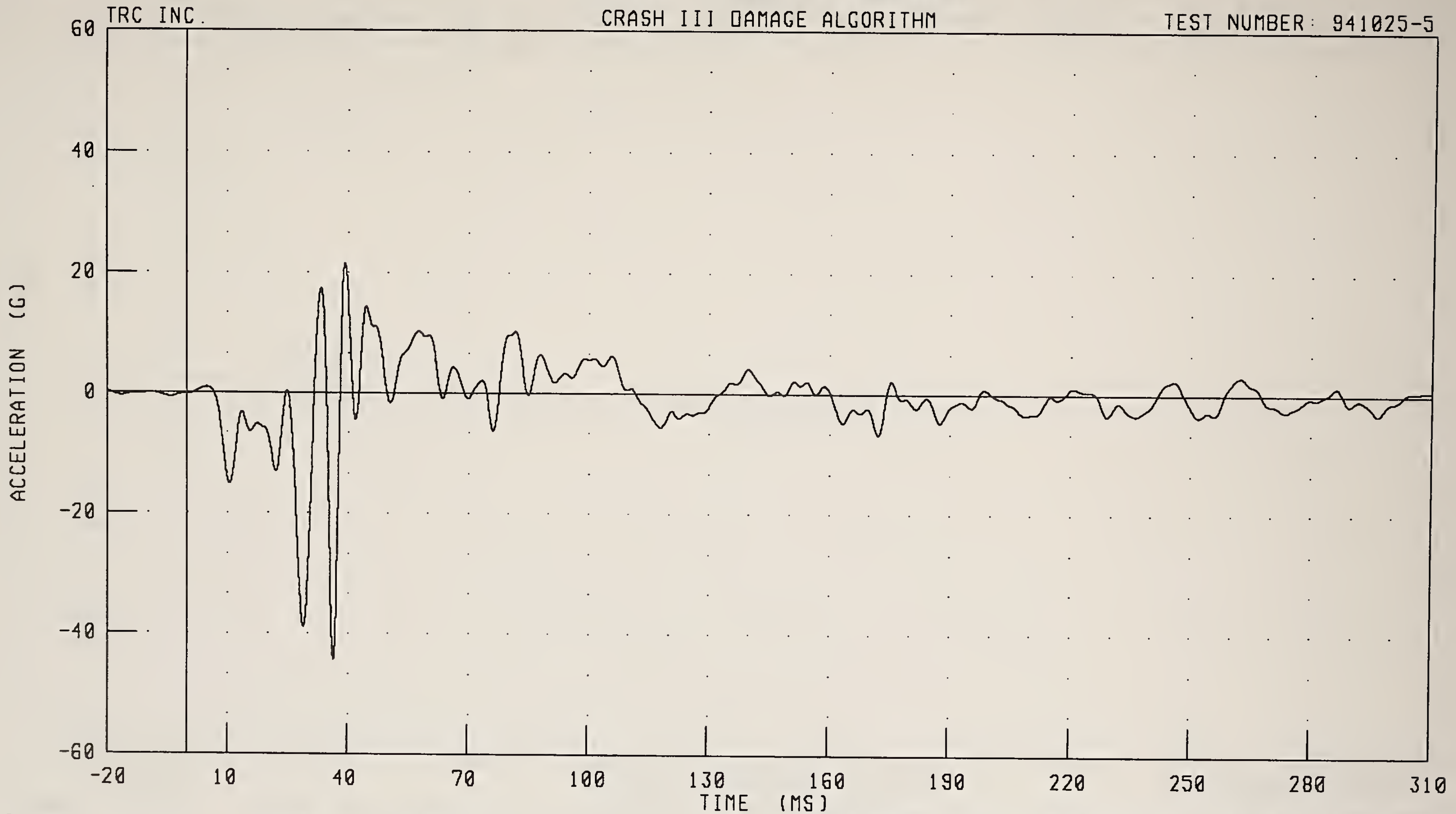
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-5



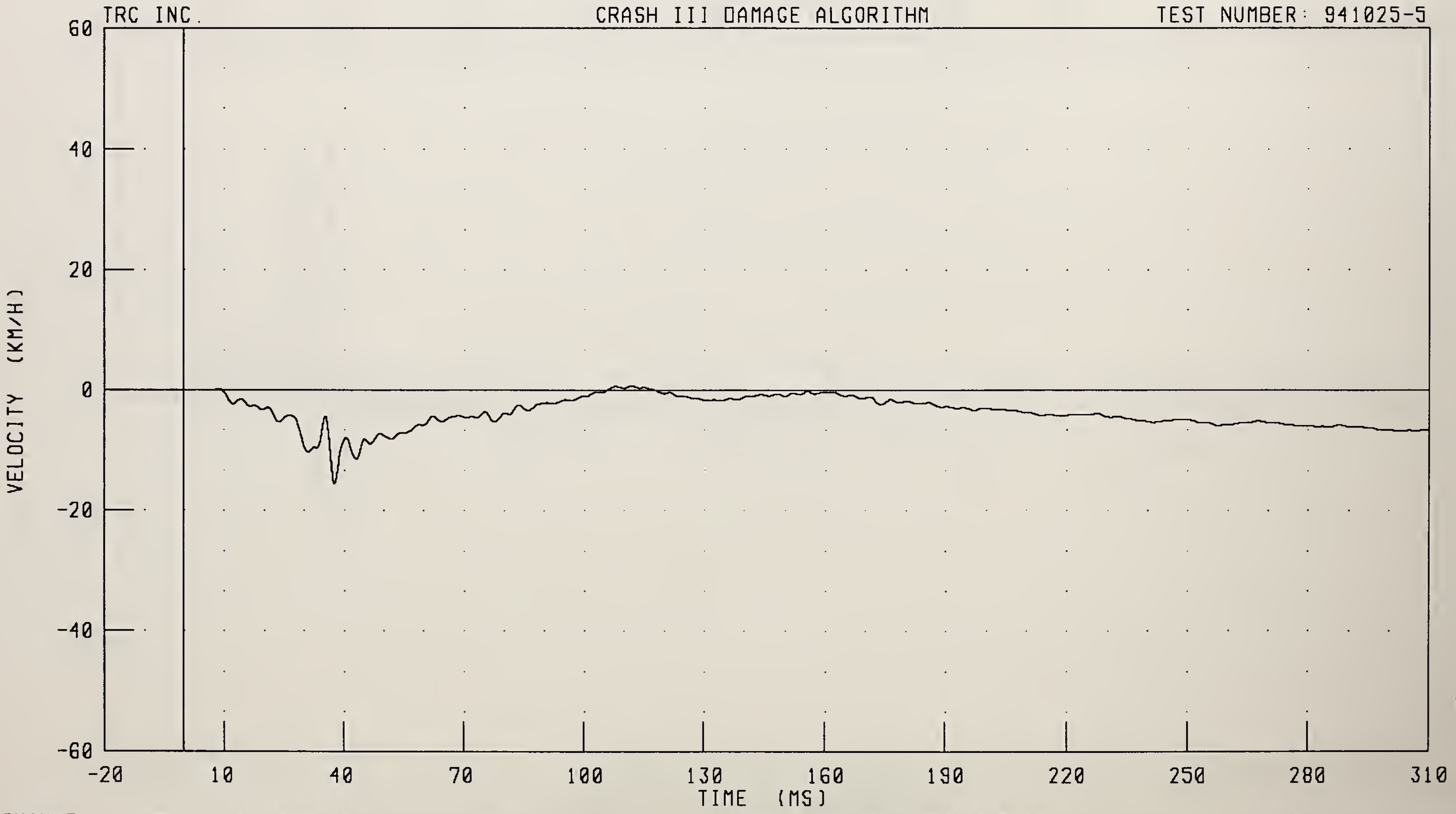
CHANNEL: VCGYD FILTER: CH. CLASS 180 PEAK DATA: 0.03 MM @ 6.56 MS; -275.87 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG Z-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGZG FILTER: CH. CLASS 60 PEAK DATA: 21.52 G @ 39.36 MS; -44.32 G @ 36.48 MS

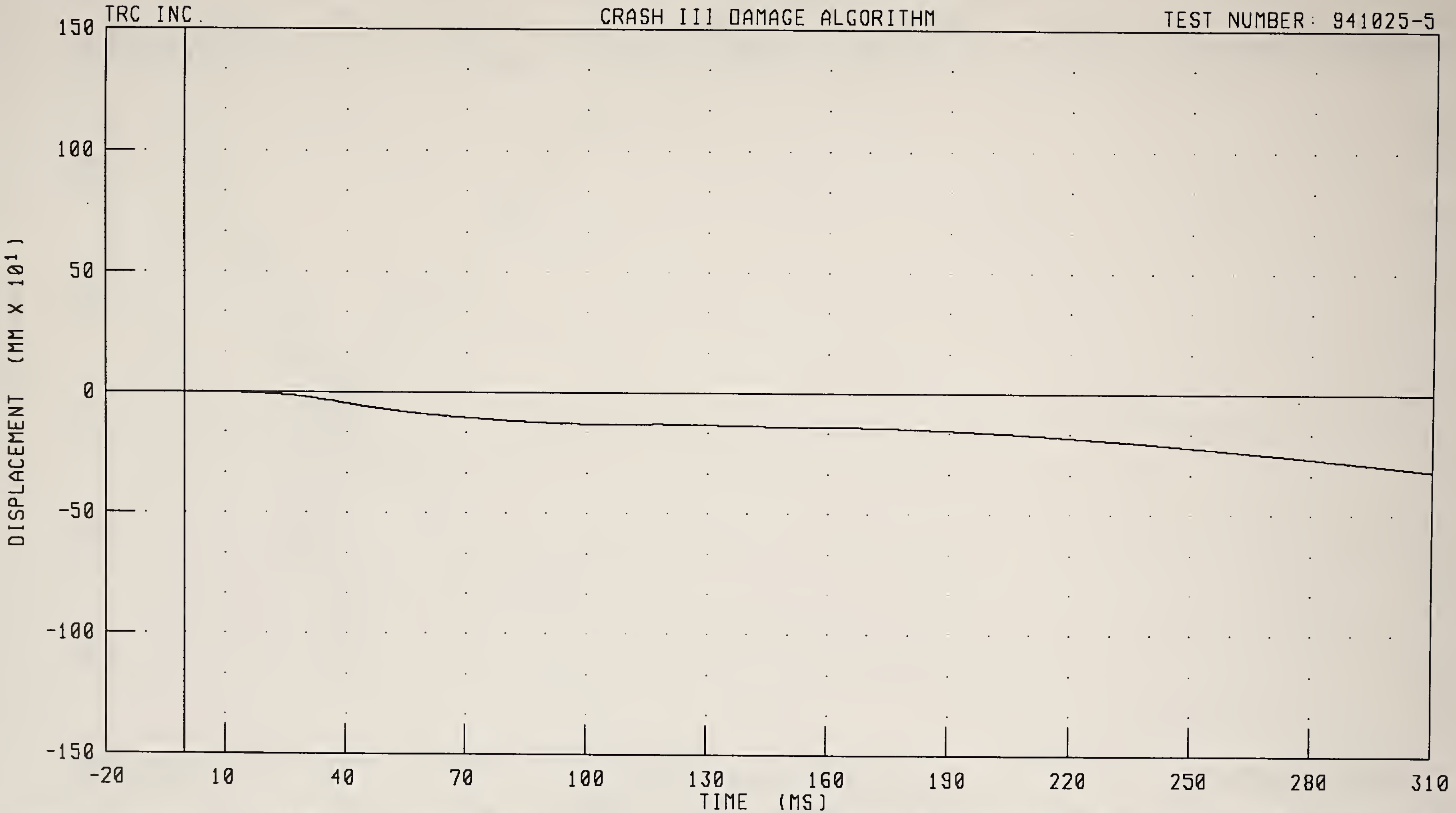
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG Z-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGZV FILTER: CH. CLASS 180 PEAK DATA: 0.72 KM/H @ 111.92 MS; -15.63 KM/H @ 37.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG Z-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-5

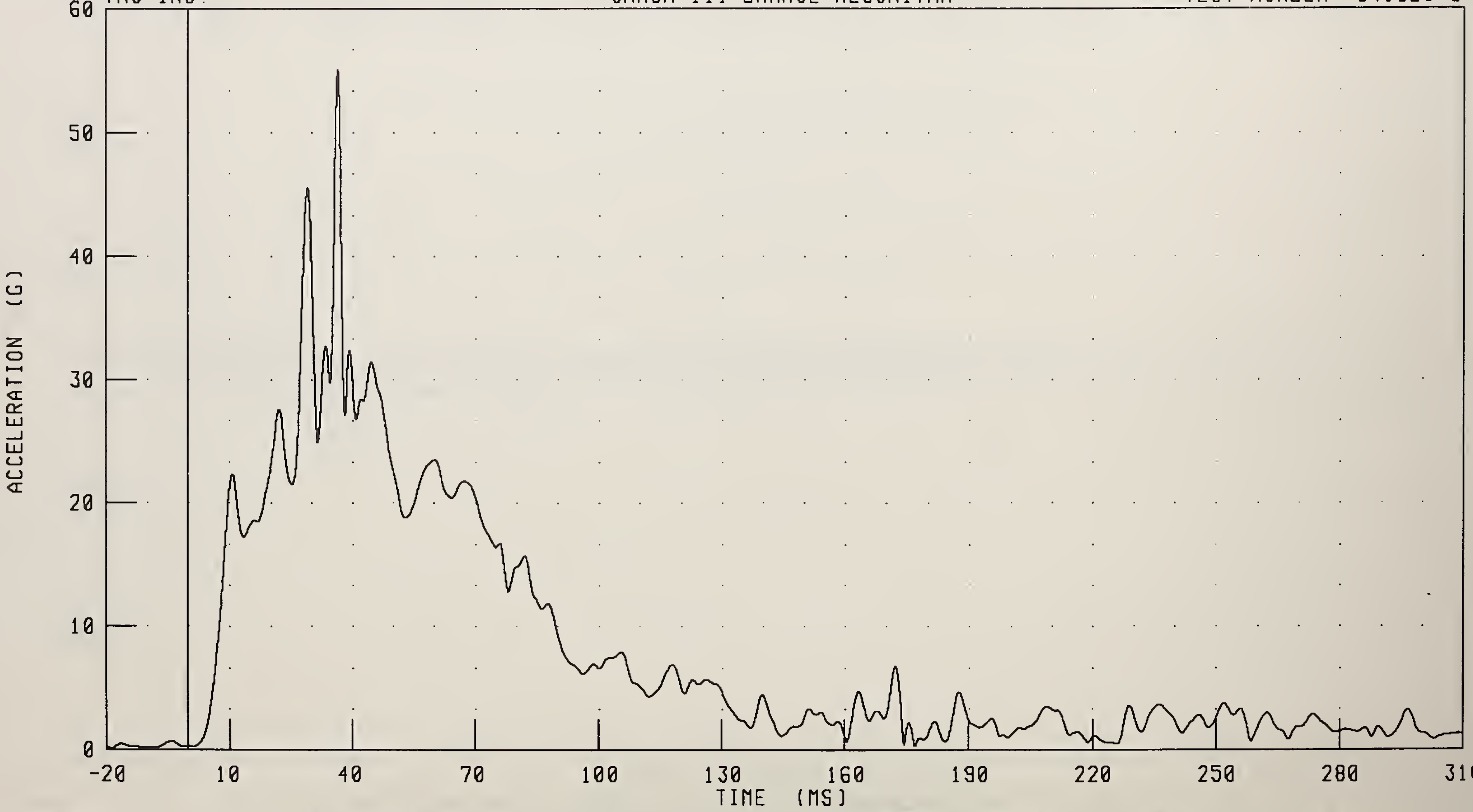


CHANNEL: VCGZD FILTER: CH. CLASS 180 PEAK DATA: 0.03 MM @ 9.44 MS; -319.78 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG RESULTANT ACCELERATION
CRASH III DAMAGE ALGORITHM

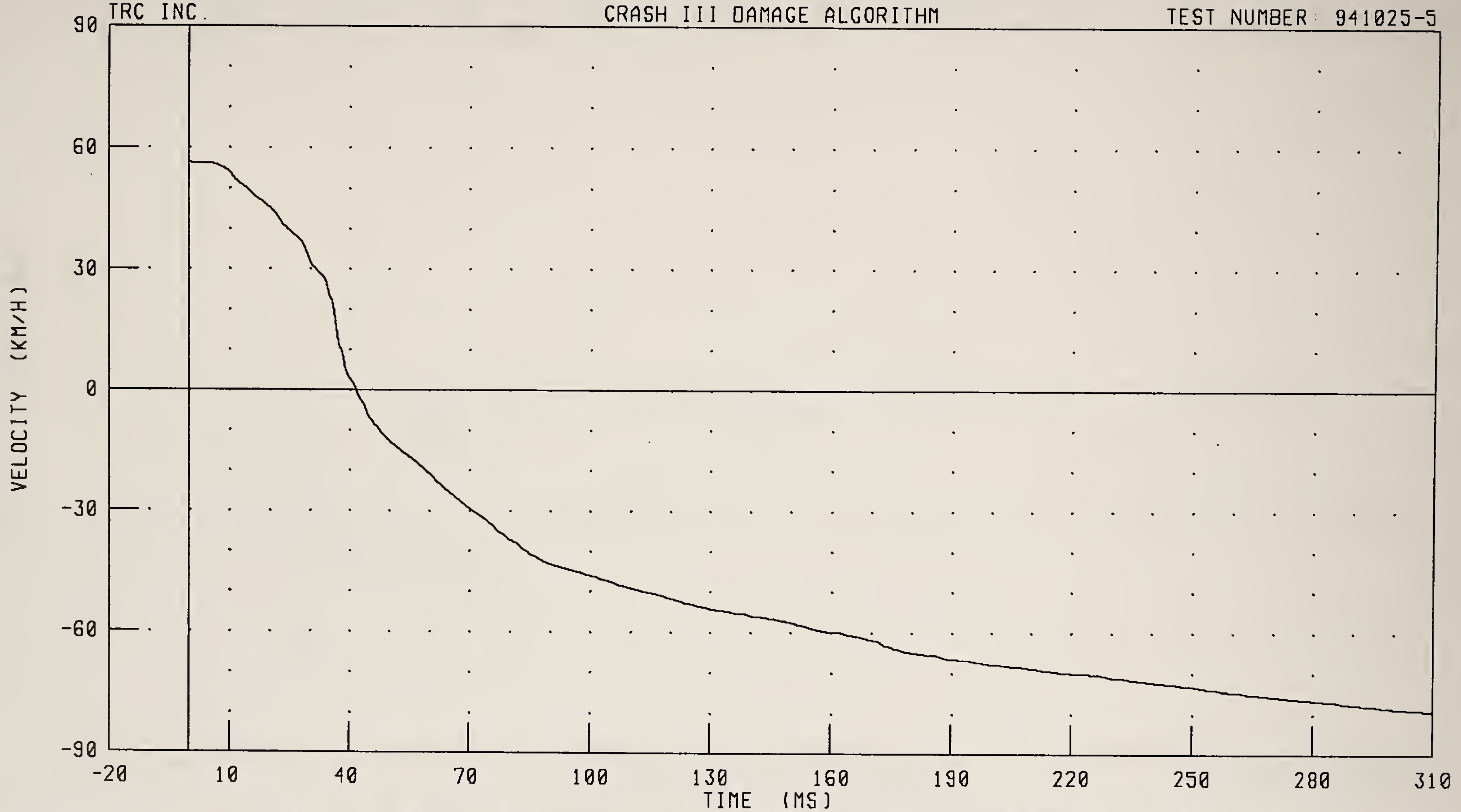
TRC INC.

TEST NUMBER: 941025-5



CHANNEL: VCGRG FILTER: CH. CLASS 60 PEAK DATA: 55.04 G @ 36.48 MS; 0.12 G @ -18.72 MS

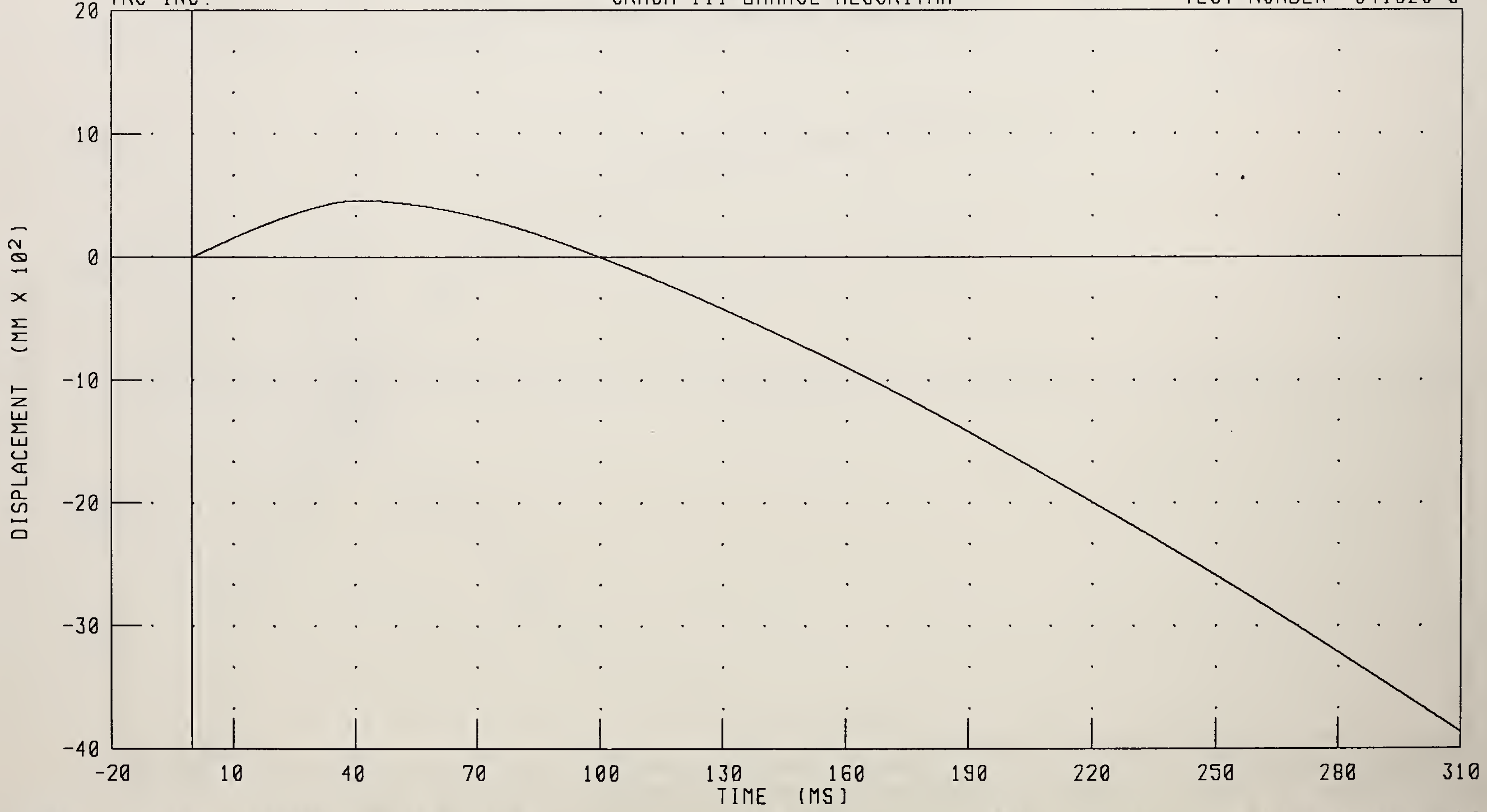
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG RESULTANT VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: VCGRV FILTER: CH. CLASS 180 PEAK DATA: 56.30 KM/H @ 0.00 MS; -79.24 KM/H @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
VEHICLE CG RESULTANT DISPLACEMENT

TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-5

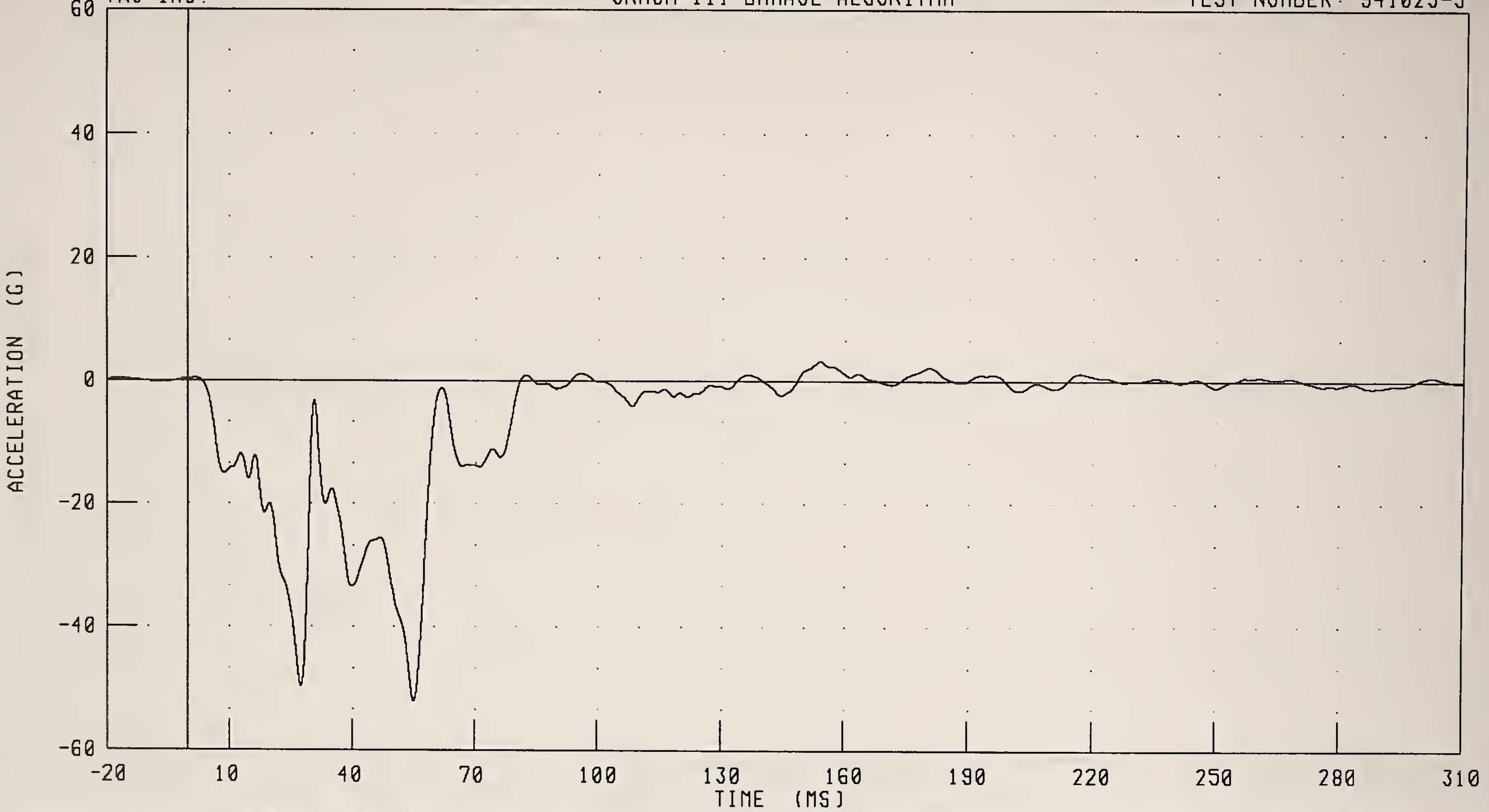


CHANNEL: VCGRD FILTER: CH. CLASS 180 PEAK DATA: 459.33 MM @ 41.68 MS; -3863.44 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT FRONT SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

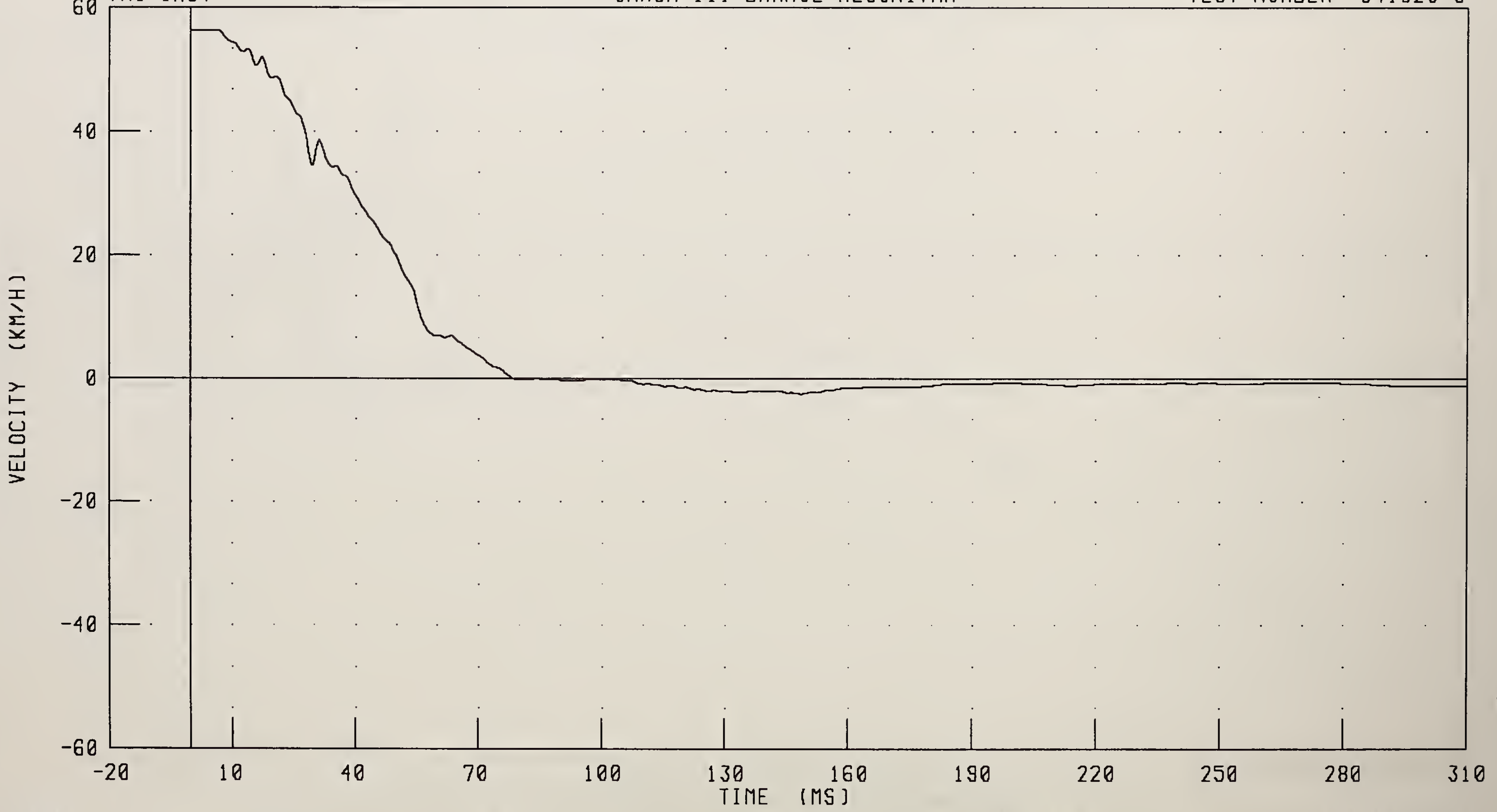
TRC INC.

TEST NUMBER: 941025-5



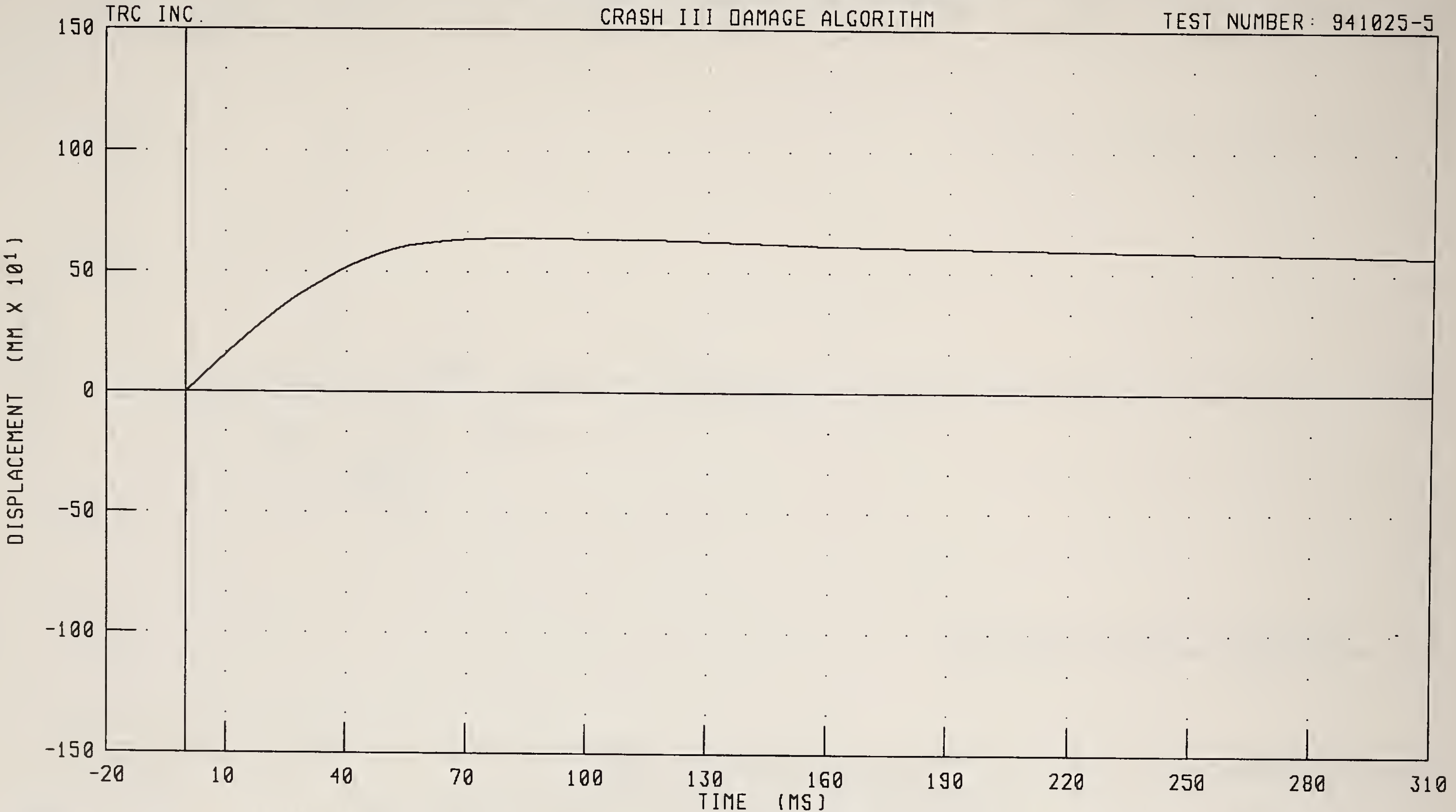
CHANNEL: LFSXG FILTER: CH. CLASS 60 PEAK DATA: 3.20 G @ 154.08 MS; -52.04 G @ 55.04 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT FRONT SILL X-AXIS VELOCITY
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-5



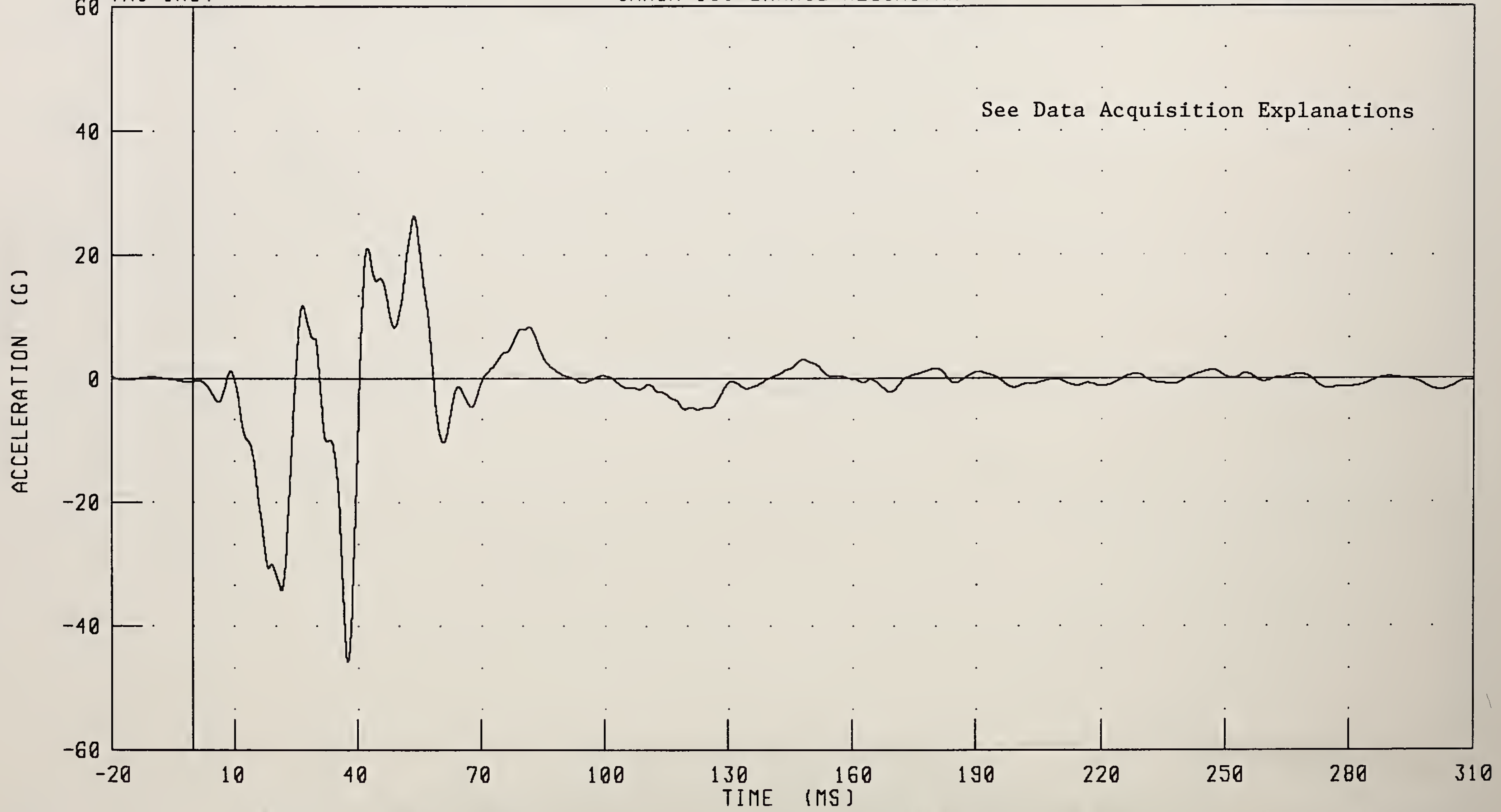
CHANNEL: LFSXV FILTER: CH. CLASS 180 PEAK DATA: 56.31 KM/H @ 6.32 MS; -2.46 KM/H @ 148.64 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



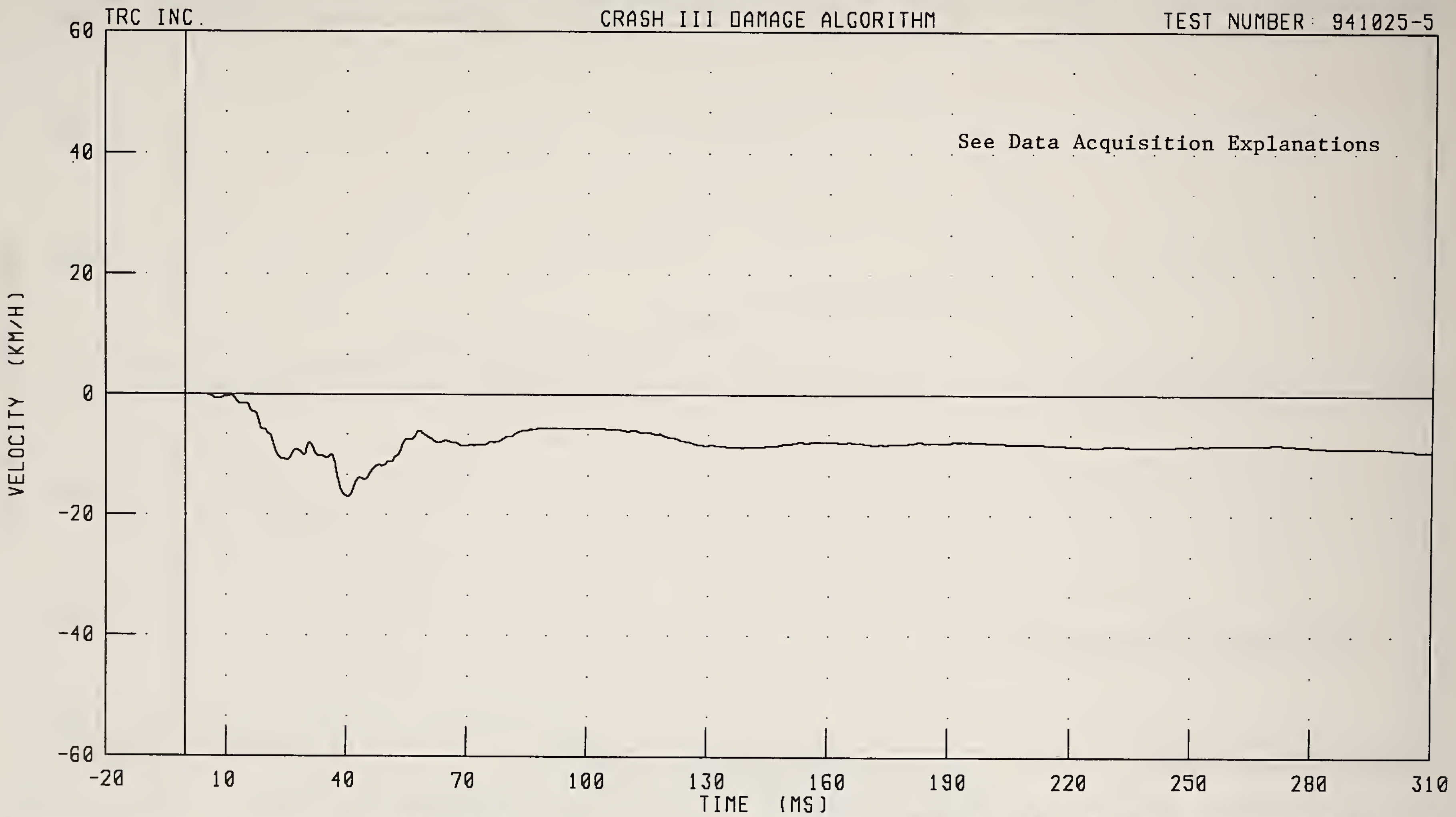
CHANNEL: LFSXD FILTER: CH. CLASS 180 PEAK DATA: 638.43 MM @ 78.48 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT FRONT SILL Y-AXIS ACCELERATION
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-5



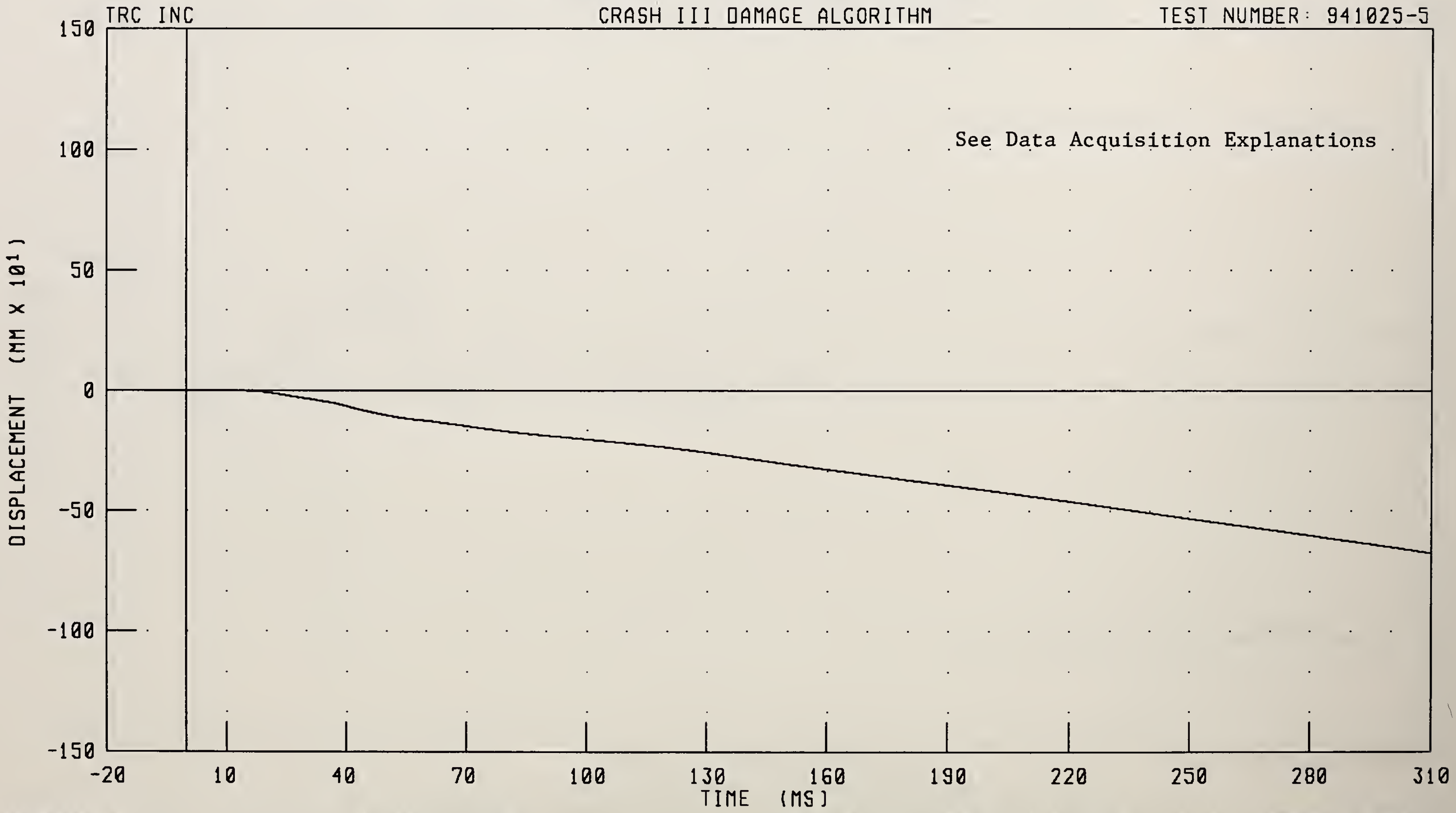
CHANNEL: LFSYG FILTER: CH. CLASS 60 PEAK DATA: 26.23 G @ 53.68 MS; -45.72 G @ 37.68 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



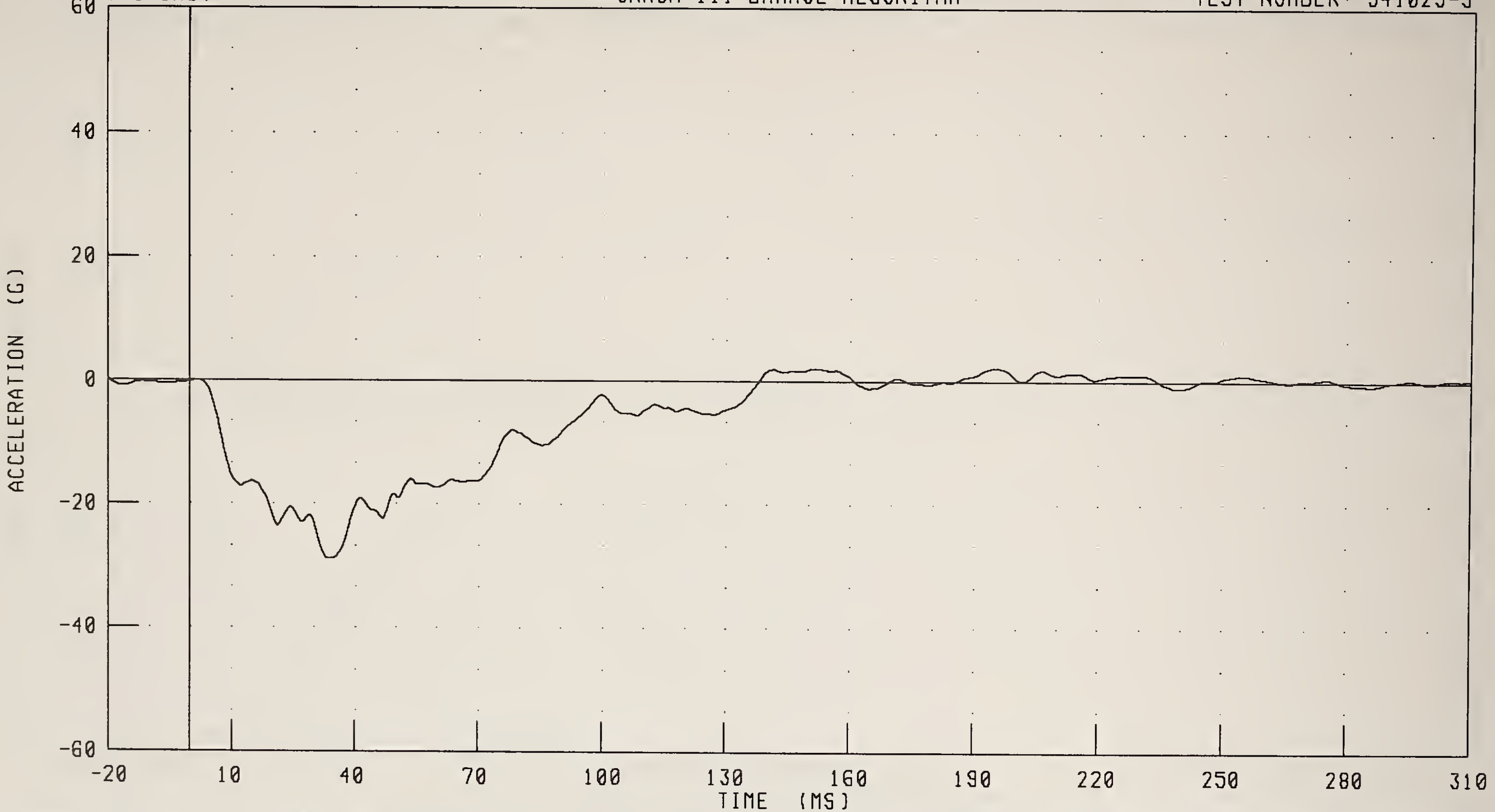
CHANNEL: LFSYV FILTER: CH. CLASS 180 PEAK DATA: 0.00 KM/H @ 0.00 MS; -16.92 KM/H @ 40.32 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT FRONT SILL Y-AXIS DISPLACEMENT



CHANNEL: LFSYD FILTER: CH. CLASS 180 PEAK DATA: 0.00 MM @ 0.00 MS; -674.71 MM @ 310.00 MS

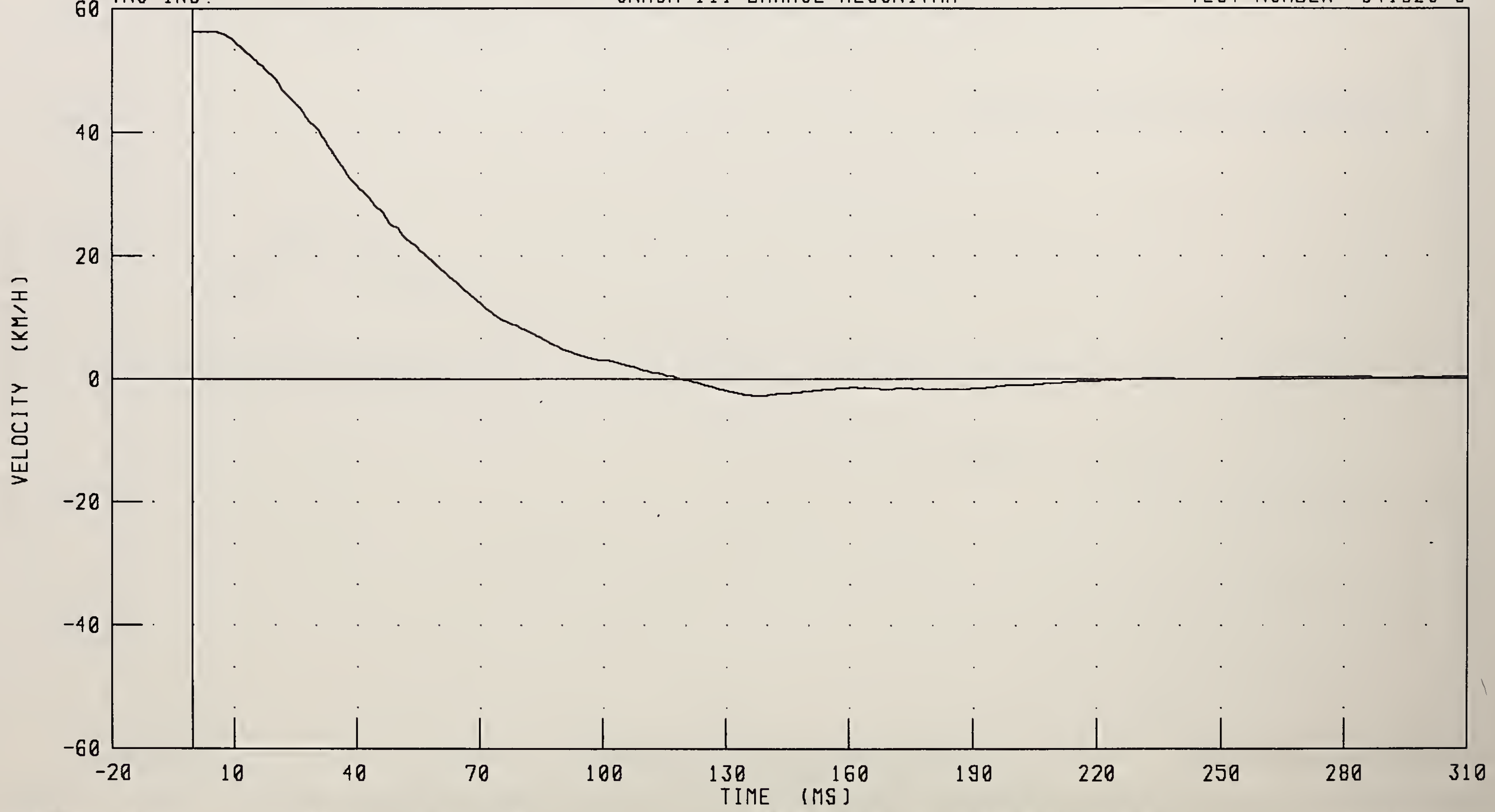
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT FRONT SILL X-AXIS ACCELERATION
TRC INC.
CRASH III DAMAGE ALGORITHM
TEST NUMBER: 941025-5



CHANNEL: RFSXG FILTER: CH. CLASS 60 PEAK DATA: 2.19 G @ 194.80 MS; -28.80 G @ 34.32 MS

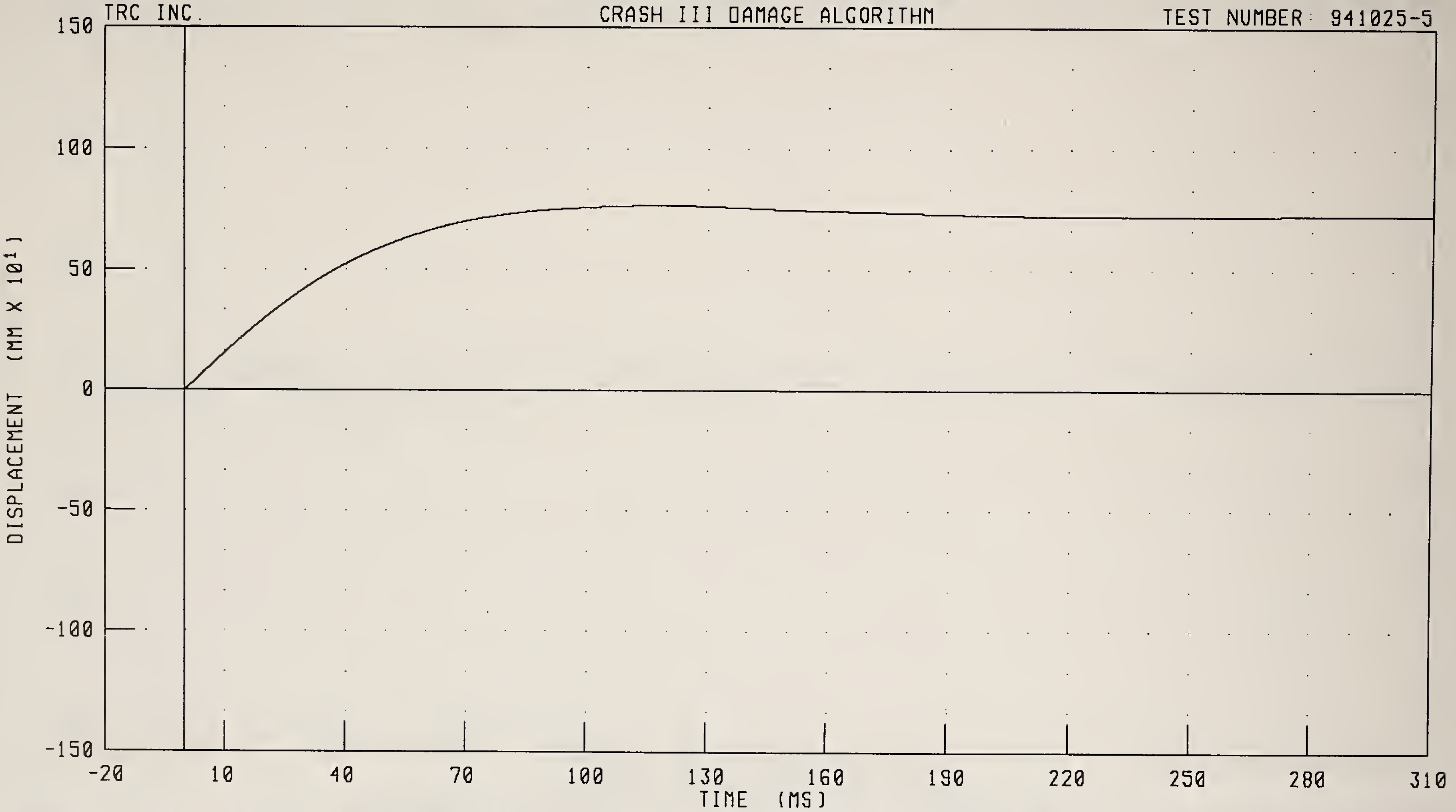
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT FRONT SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.
TEST NUMBER: 941025-5



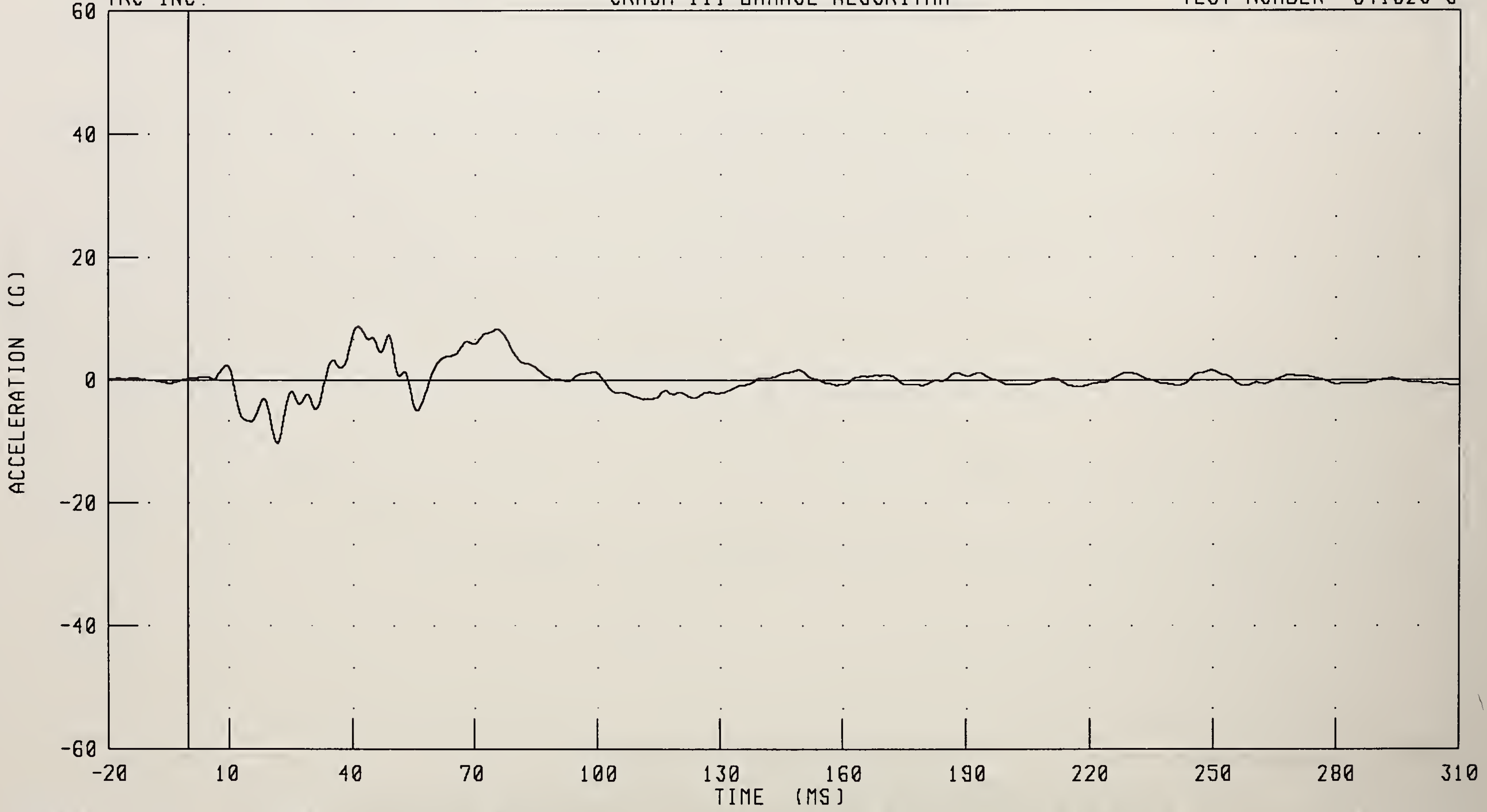
CHANNEL: RFSXV FILTER: CH. CLASS 180 PEAK DATA: 56.30 KM/H @ 0.00 MS; -2.72 KM/H @ 138.48 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT FRONT SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: RFSXD   FILTER: CH. CLASS 180   PEAK DATA: 765.75 MM @ 118.96 MS; 0.00 MM @ 0.00 MS

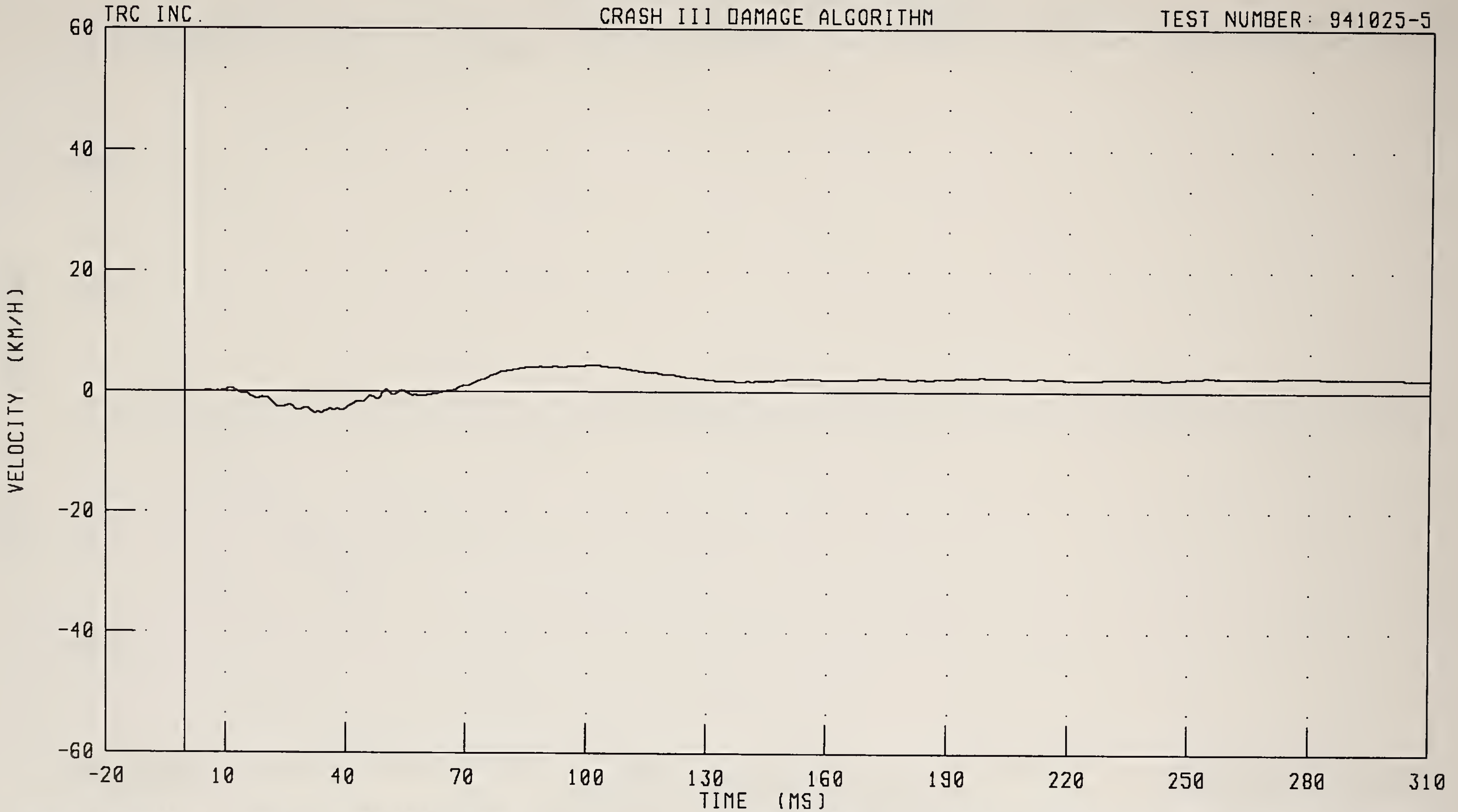
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT FRONT SILL Y-AXIS ACCELERATION
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-5



CHANNEL: RFSYG FILTER: CH. CLASS 60 PEAK DATA: 8.77 G @ 41.36 MS; -10.26 G @ 21.76 MS

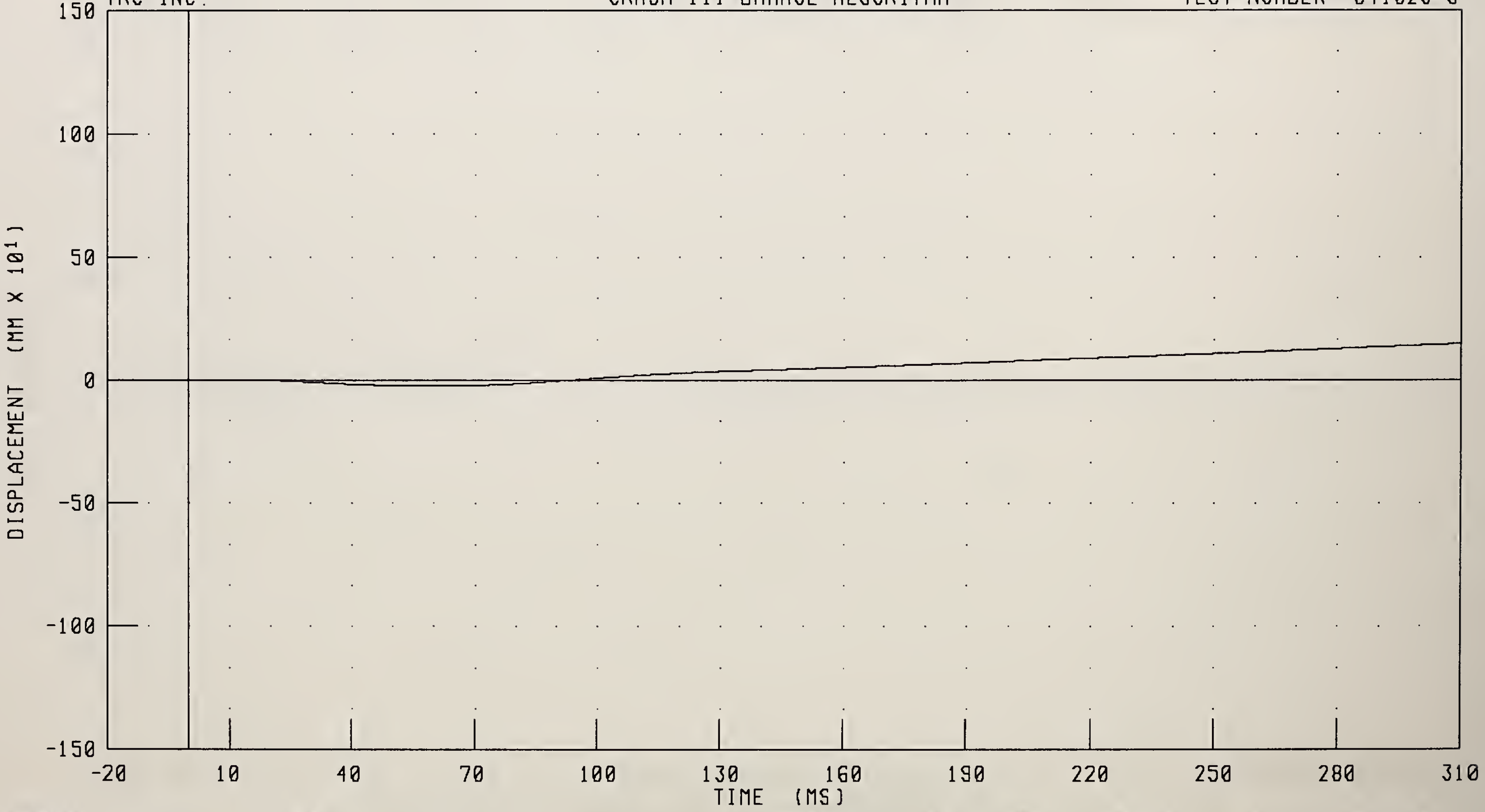
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT FRONT SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-5



CHANNEL: RFSYV FILTER: CH. CLASS 180 PEAK DATA: 4.42 KM/H @ 100.88 MS; -3.62 KM/H @ 32.32 MS

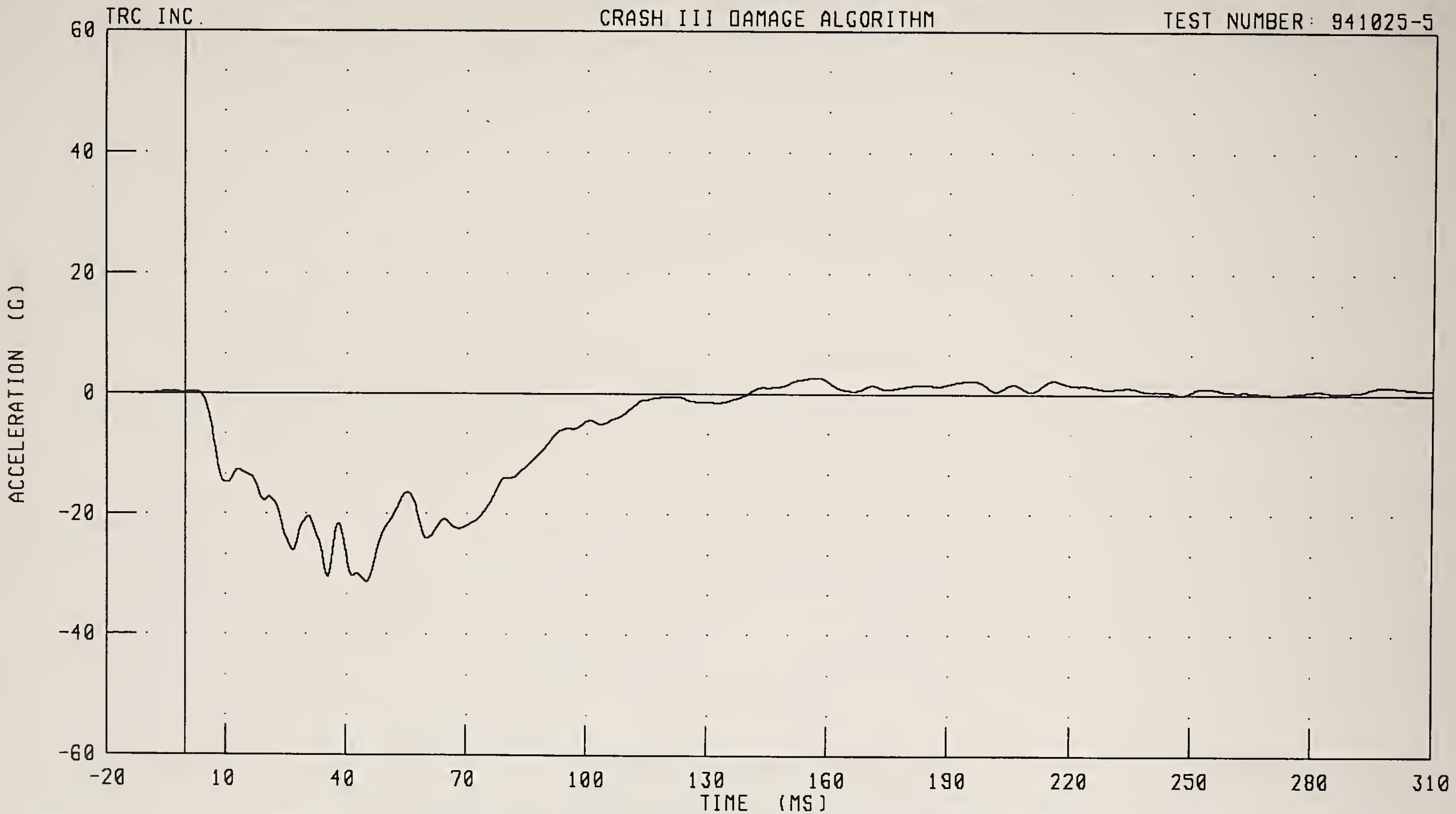
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT FRONT SILL Y-AXIS DISPLACEMENT
TRC INC. CRASH III DAMAGE ALGORITHM TEST NUMBER: 941025-5



CHANNEL: RFSYD FILTER: CH. CLASS 180 PEAK DATA: 148.19 MM @ 310.00 MS; -20.92 MM @ 64.48 MS

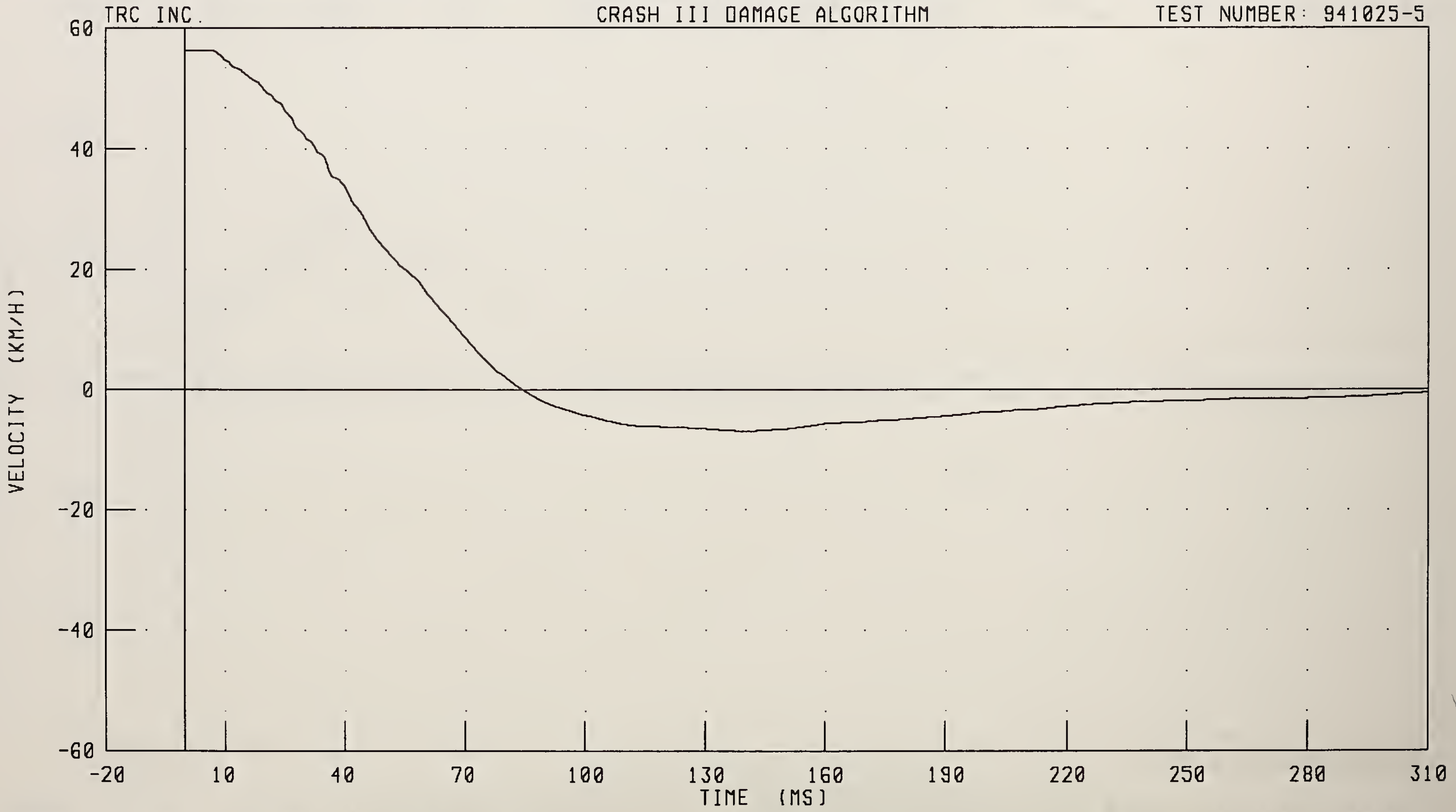
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT REAR SILL X-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM

TEST NUMBER: 941025-5



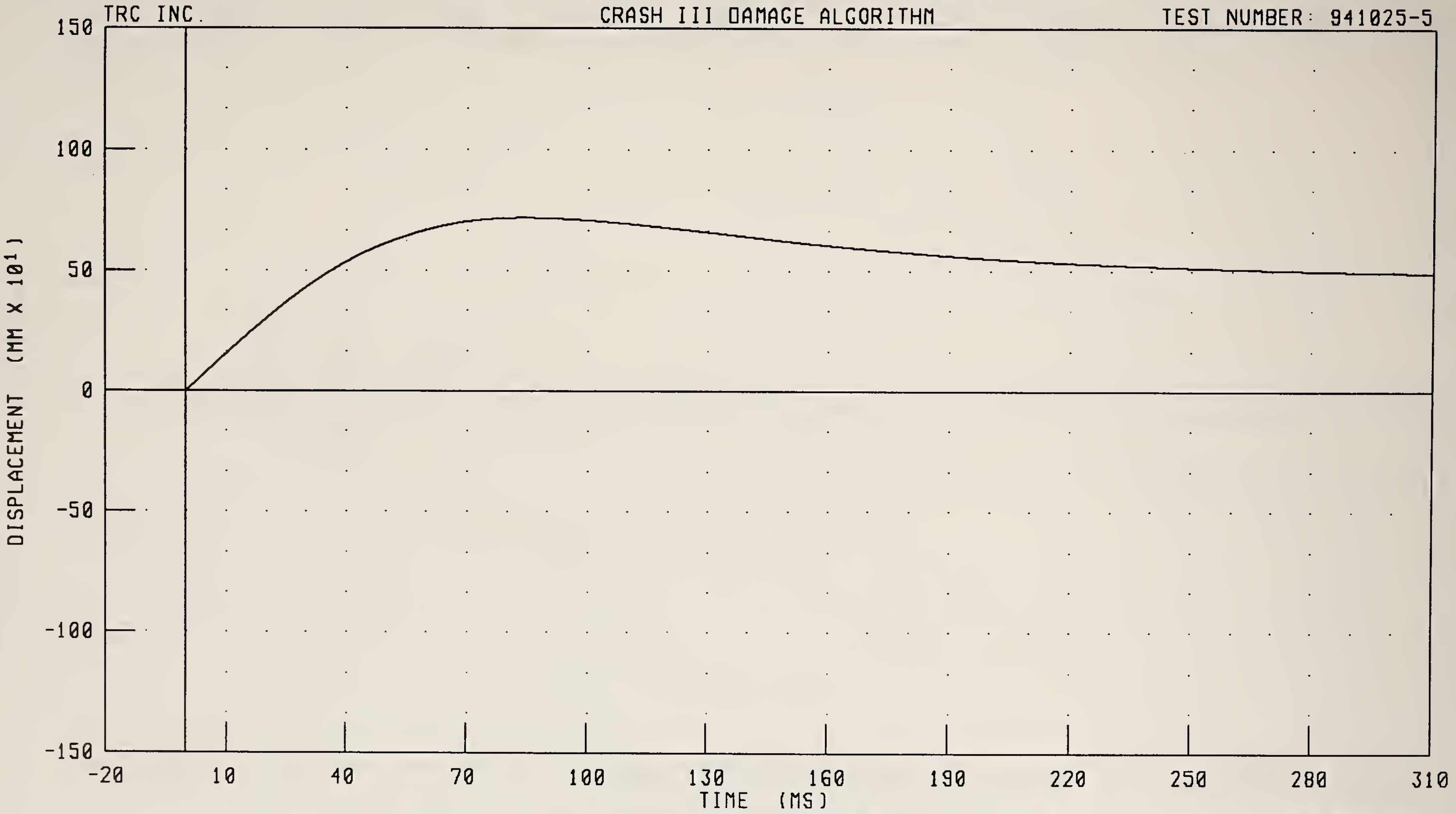
CHANNEL: LRSXG FILTER: CH. CLASS 60 PEAK DATA: 2.77 G @ 157.28 MS; -31.29 G @ 44.96 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: LRSXV FILTER: CH. CLASS 180 PEAK DATA: 56.32 KM/H @ 1.76 MS; -6.90 KM/H @ 140.48 MS

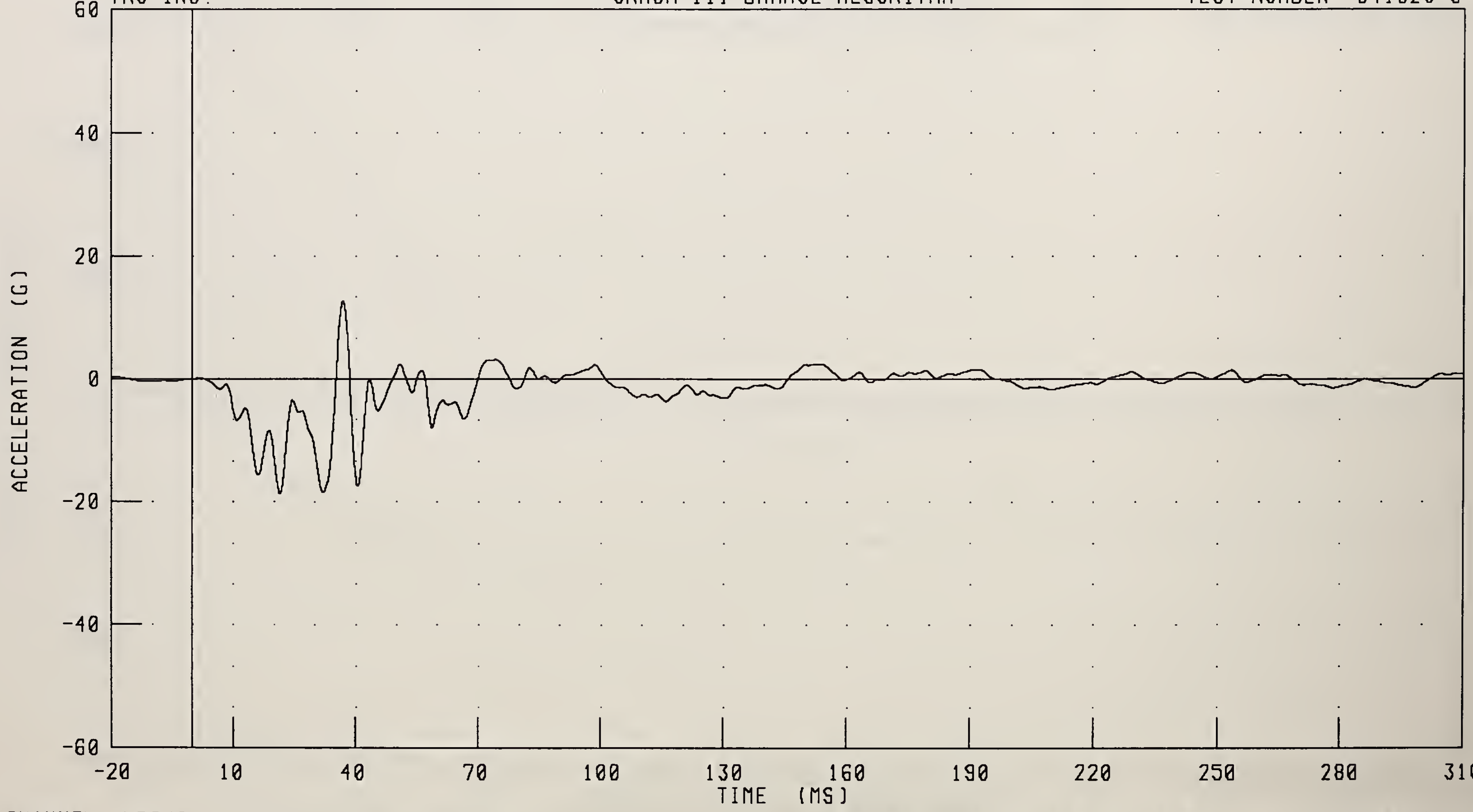
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT REAR SILL X-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM



CHANNEL: LRSXD FILTER: CH. CLASS 180 PEAK DATA: 718.05 MM @ 84.48 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT REAR SILL Y-AXIS ACCELERATION

TRC INC.　CRASH III DAMAGE ALGORITHM　TEST NUMBER: 941025-5

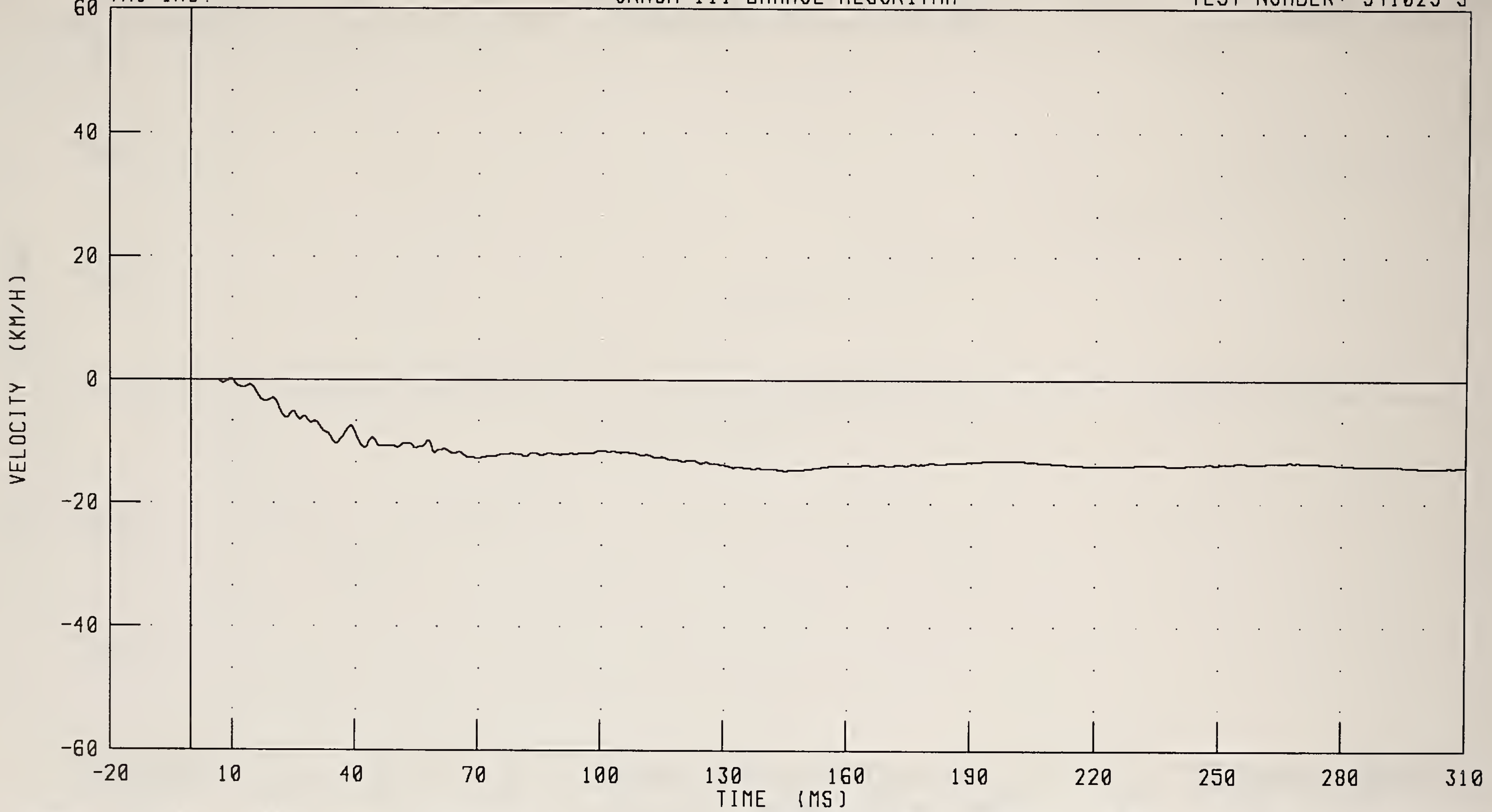


CHANNEL: LRSYG　FILTER: CH. CLASS 60　PEAK DATA: 12.77 G @ 37.04 MS; -18.68 G @ 21.52 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT REAR SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM

TRC INC.

TEST NUMBER: 941025-5

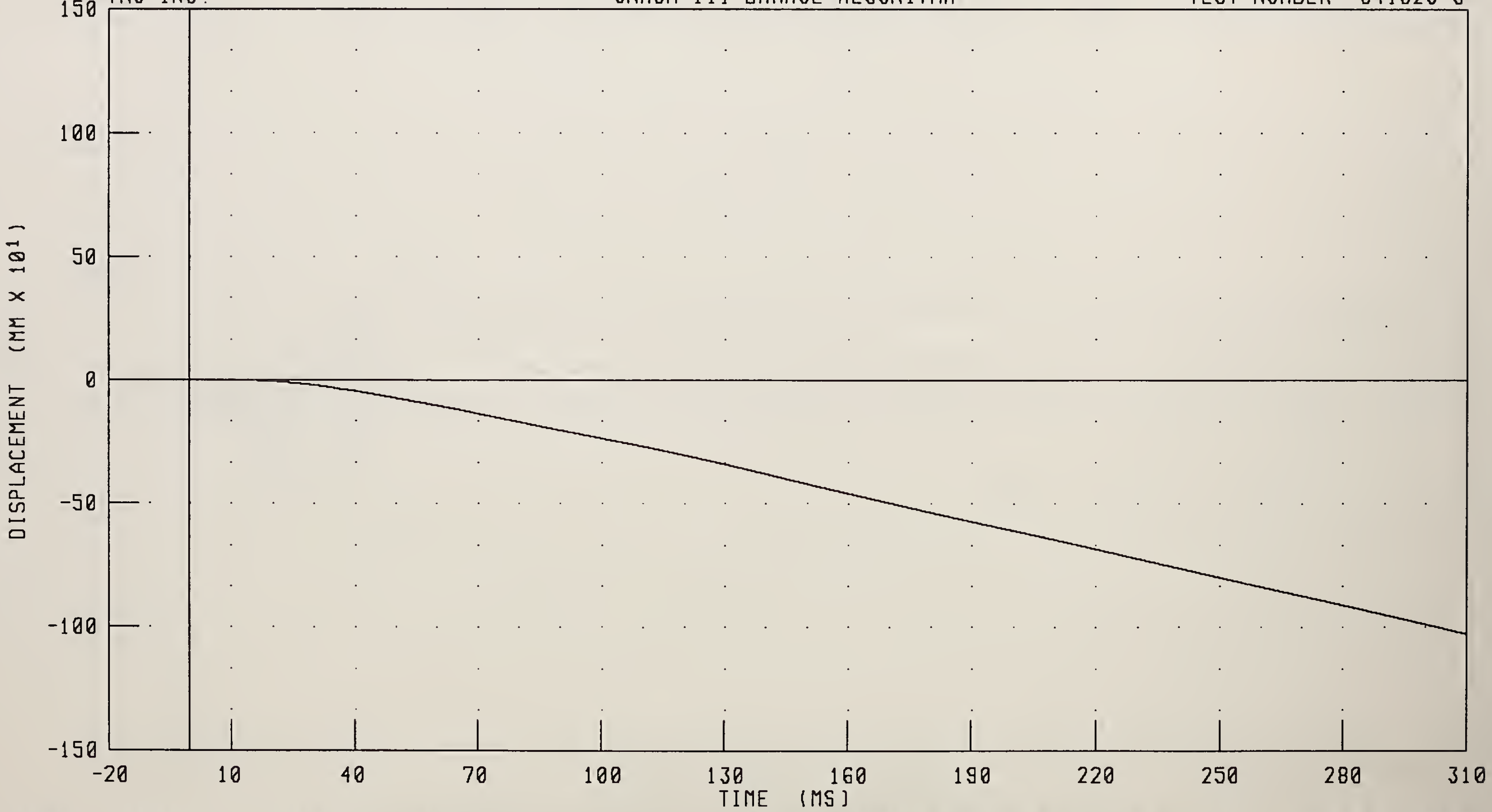


CHANNEL: LRSYV FILTER: CH. CLASS 180 PEAK DATA: 0.21 KM/H @ 9.60 MS; -14.66 KM/H @ 144.88 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
LEFT REAR SILL Y-AXIS DISPLACEMENT
CRASH III DAMAGE ALGORITHM

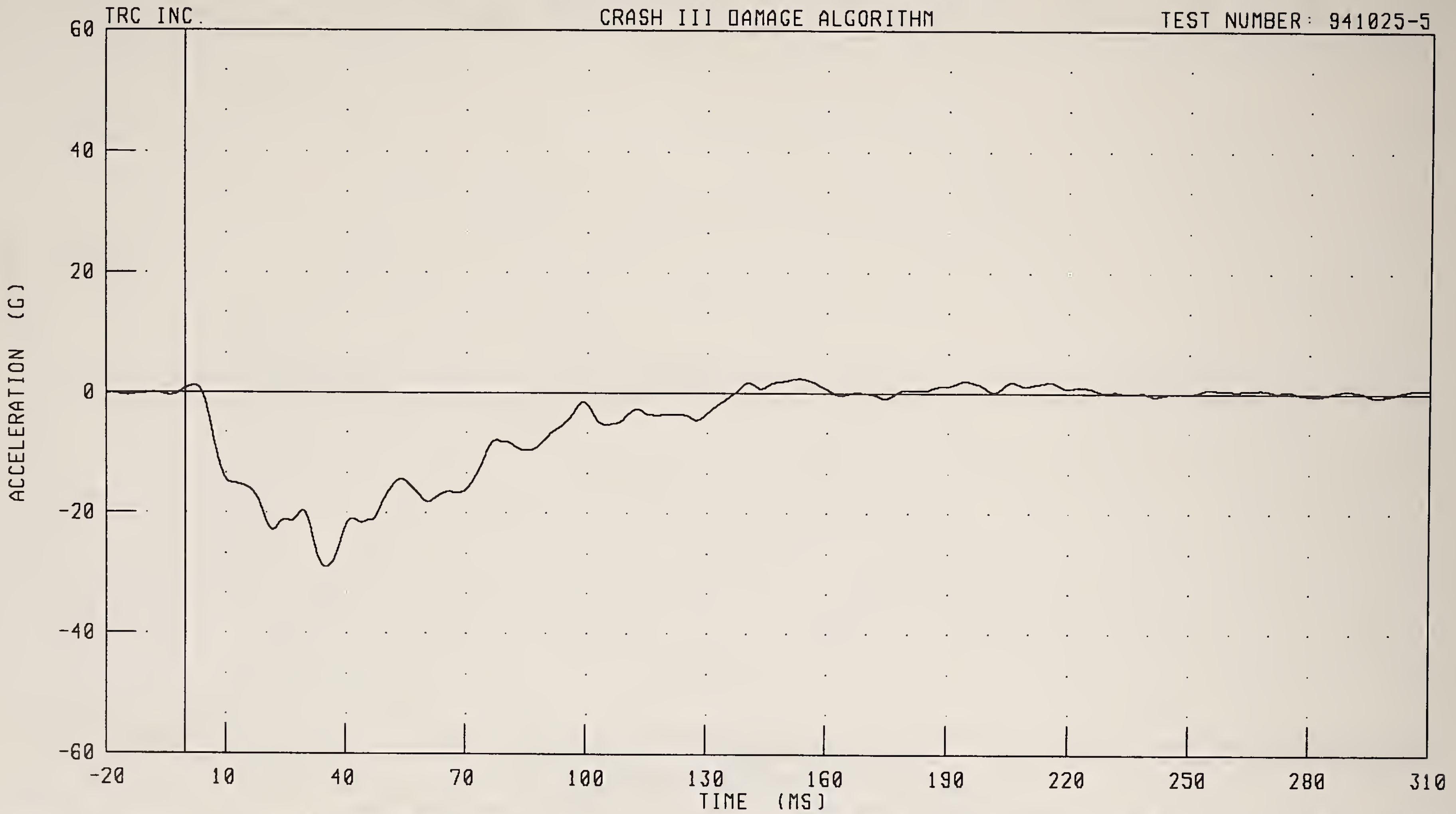
TRC INC.

TEST NUMBER: 941025-5



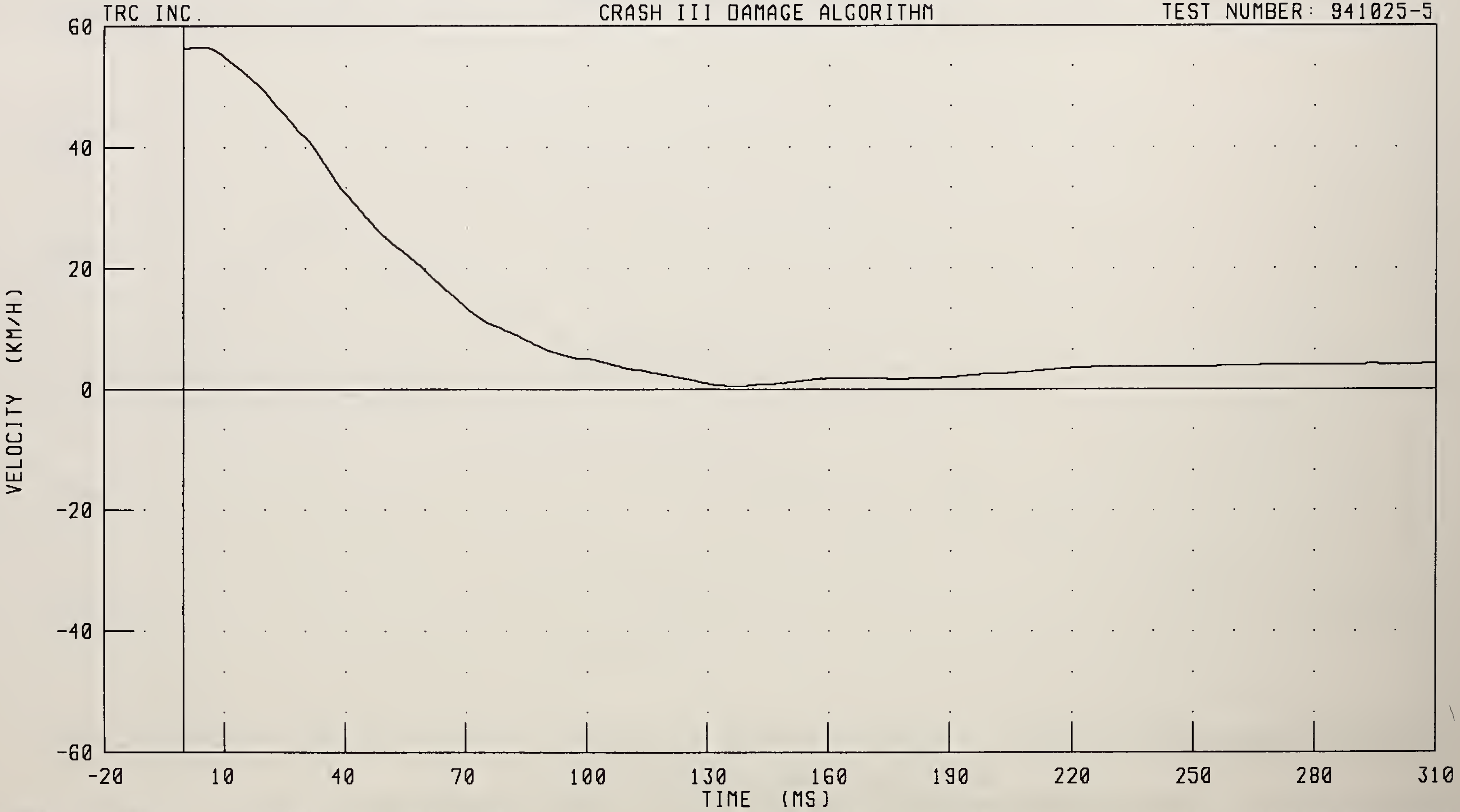
CHANNEL: LRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.00 MM @ 0.00 MS; -1027.21 MM @ 310.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT REAR SILL X-AXIS ACCELERATION



CHANNEL: RRSXG FILTER: CH. CLASS 60 PEAK DATA: 2.48 G @ 153.28 MS; -28.97 G @ 35.20 MS

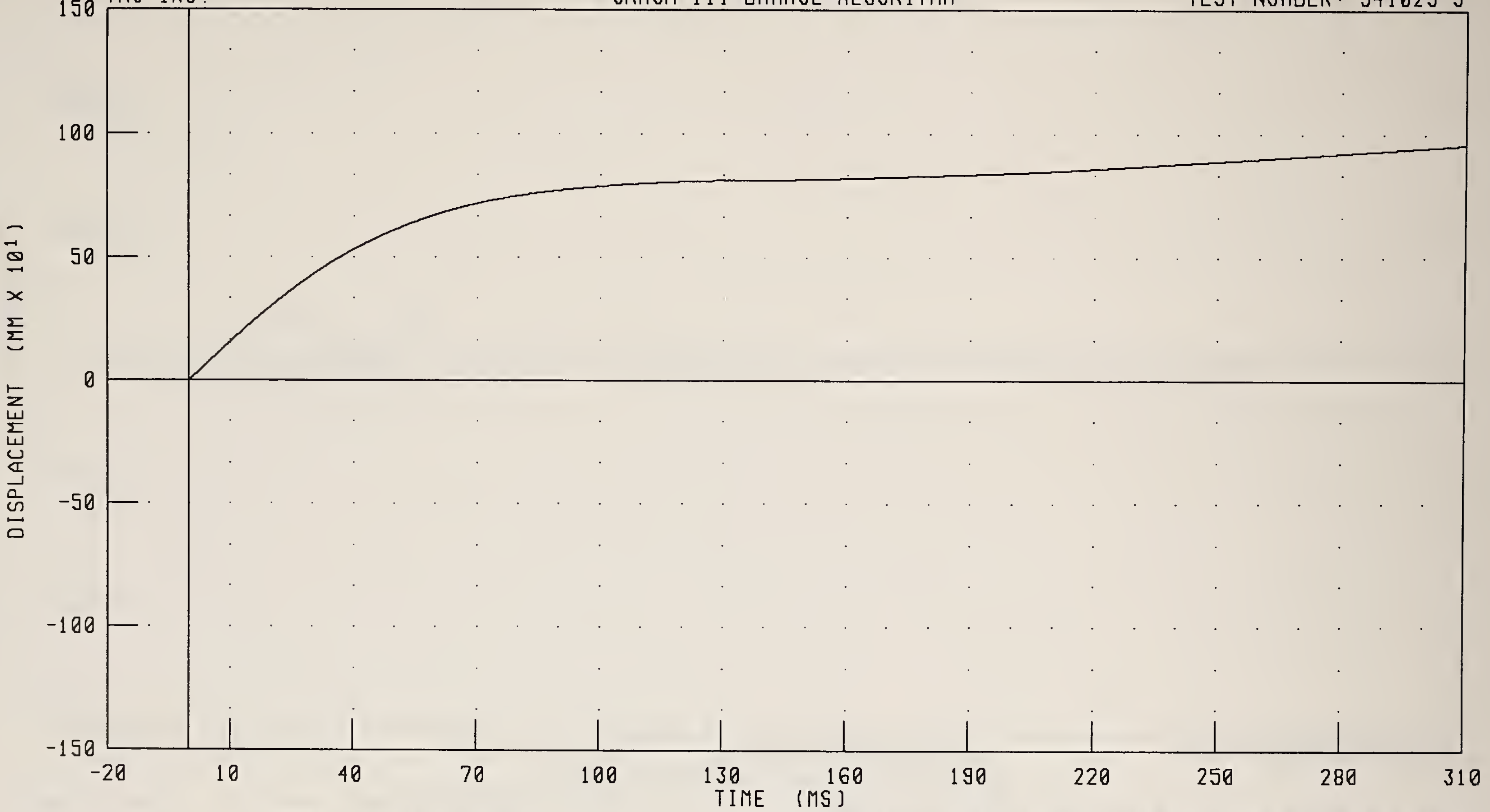
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT REAR SILL X-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: RRSXV FILTER: CH. CLASS 180 PEAK DATA: 56.44 KM/H @ 5.20 MS; 0.54 KM/H @ 138.32 MS

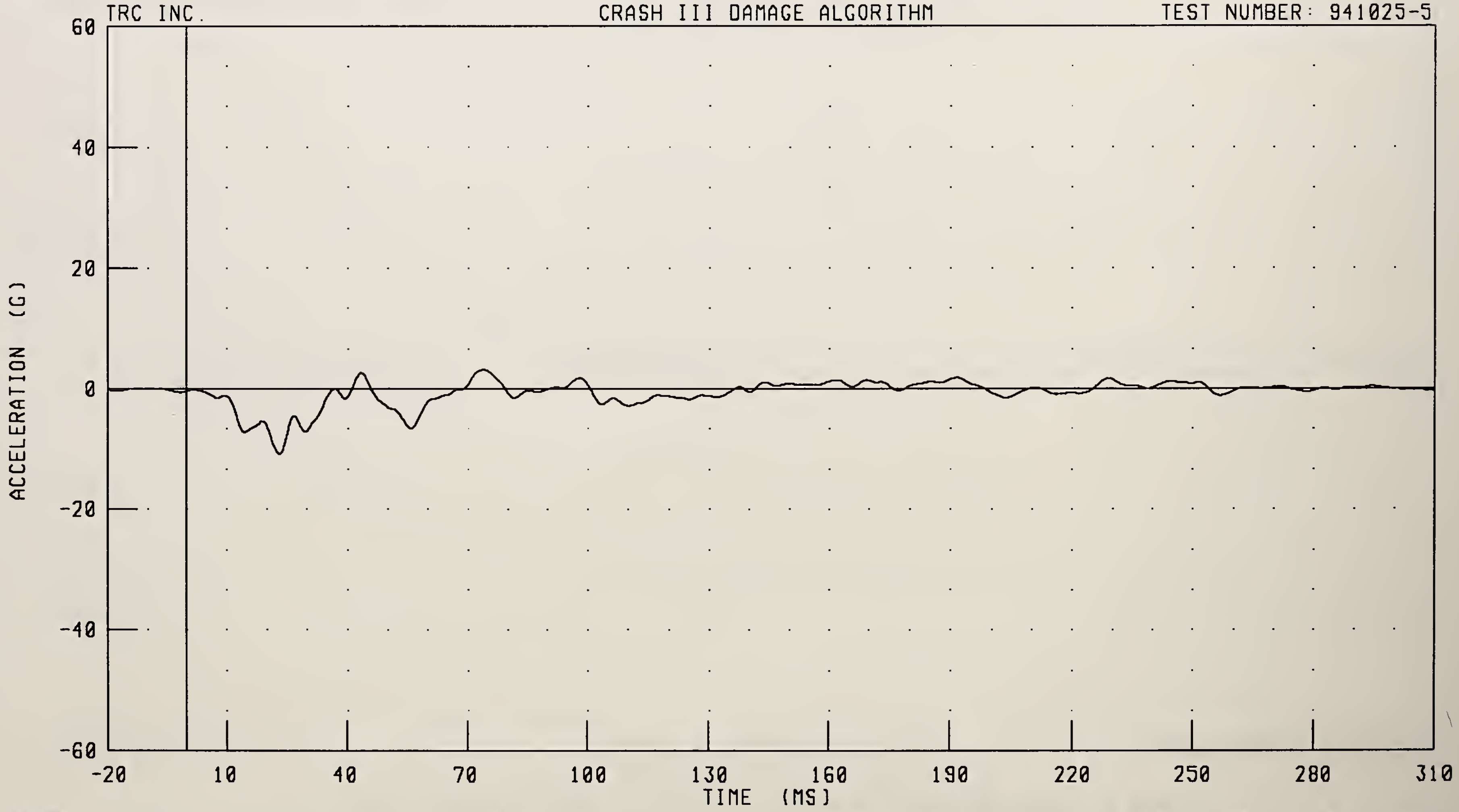
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT REAR SILL X-AXIS DISPLACEMENT

TRC INC.
CRASH III DAMAGE ALGORITHM
TEST NUMBER: 941025-5



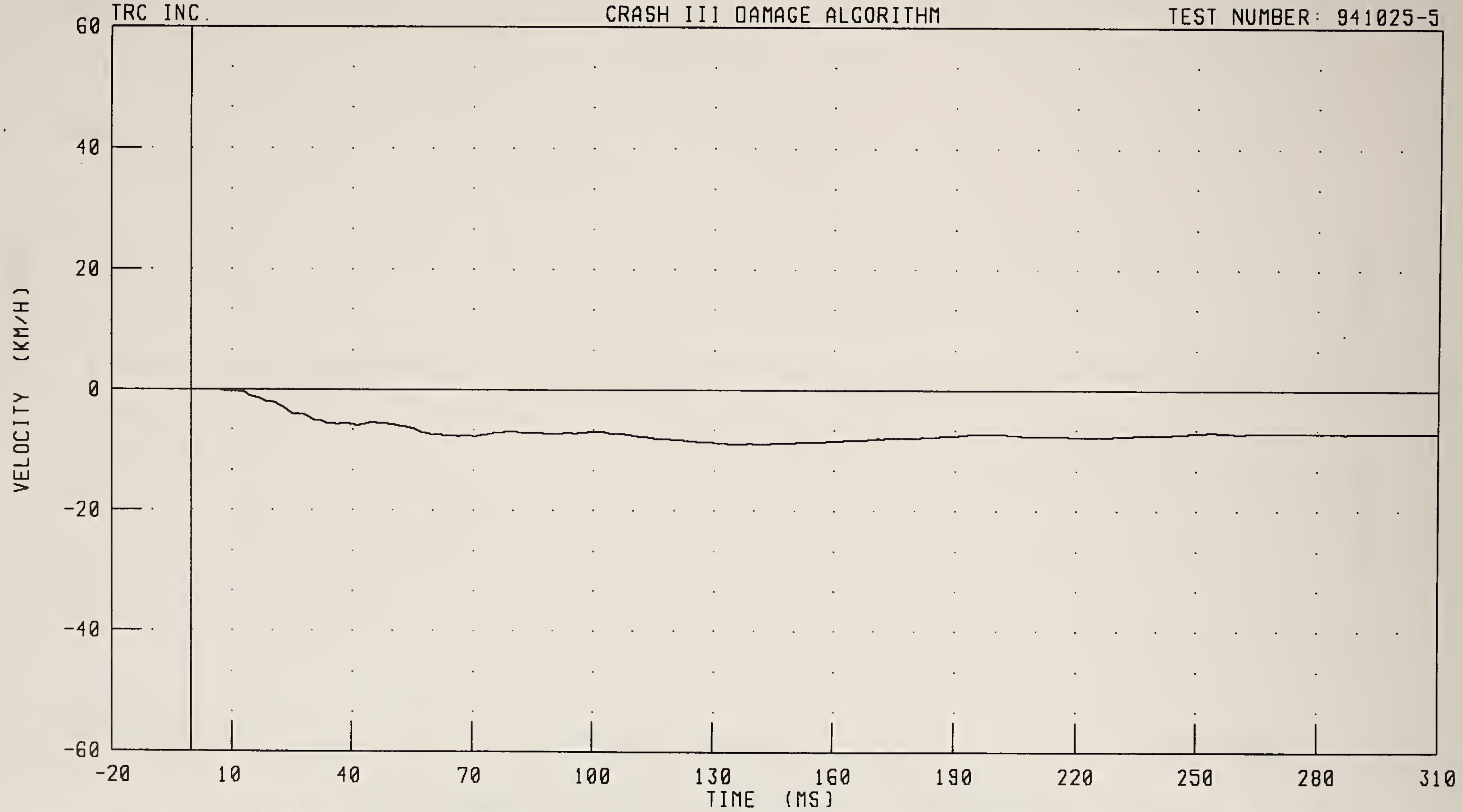
CHANNEL: RRSXD FILTER: CH. CLASS 180 PEAK DATA: 957.10 MM @ 310.00 MS; 0.00 MM @ 0.00 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT REAR SILL Y-AXIS ACCELERATION
CRASH III DAMAGE ALGORITHM



CHANNEL: RRSYG FILTER: CH. CLASS 60 PEAK DATA: 3.16 G @ 73.92 MS; -10.85 G @ 23.20 MS

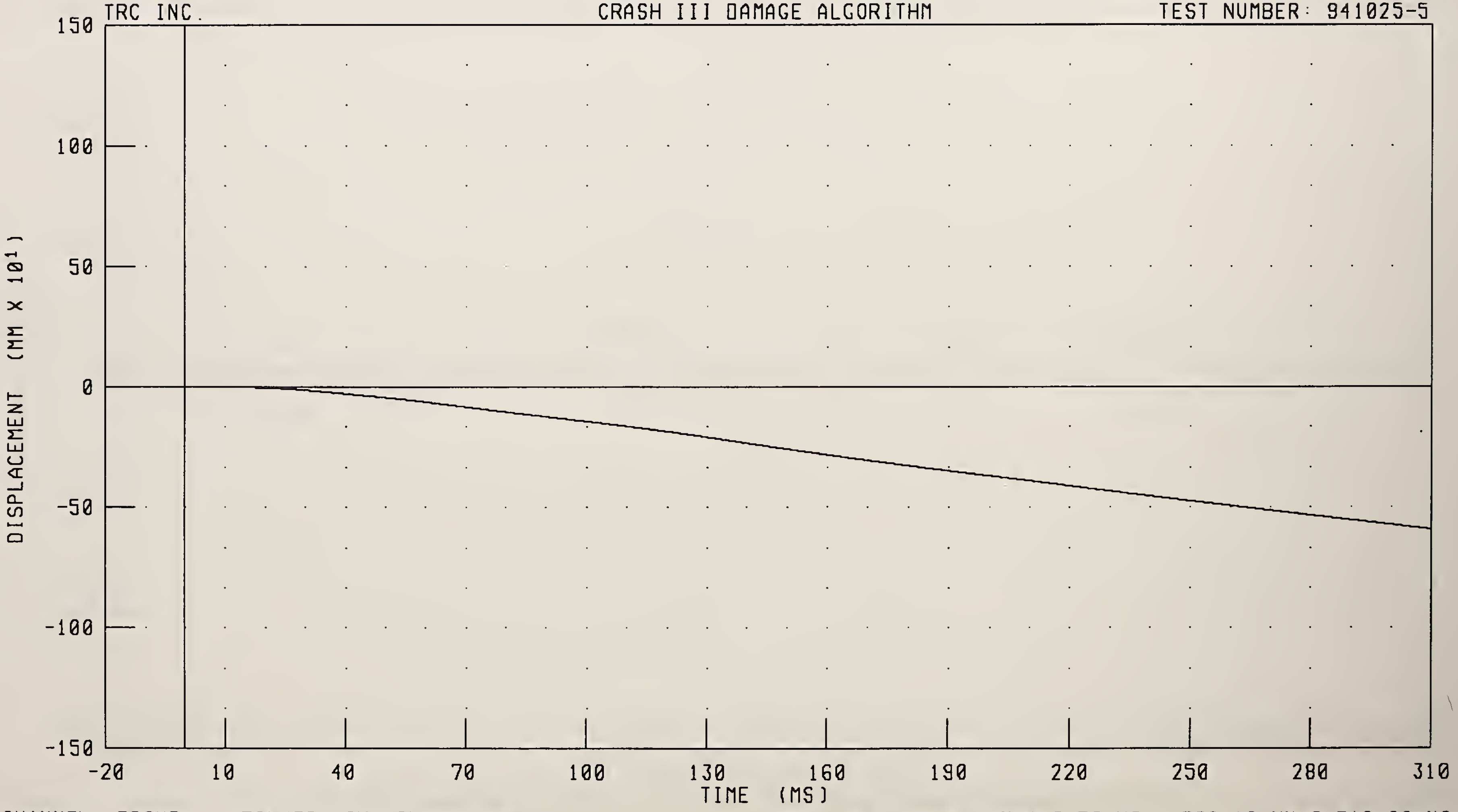
1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT REAR SILL Y-AXIS VELOCITY
CRASH III DAMAGE ALGORITHM



CHANNEL: RRSYV FILTER: CH. CLASS 180 PEAK DATA: 0.02 KM/H @ 1.60 MS; -9.01 KM/H @ 141.60 MS

1992 PLYMOUTH VOYAGER INTO 50% LEFT OFFSET BARRIER IMPACT 5 OF 5
RIGHT REAR SILL Y-AXIS DISPLACEMENT

TRC INC.
CRASH III DAMAGE ALGORITHM
TEST NUMBER: 941025-5



CHANNEL: RRSYD FILTER: CH. CLASS 180 PEAK DATA: 0.01 MM @ 2.72 MS; -592.16 MM @ 310.00 MS

Appendix C

Miscellaneous Test Information

Vehicle Accelerometer Information

No.	Location	Axis	Manufacturer	Model	Serial Number	Orientation (+ Sensing)
1	Vehicle center of gravity	X	Endevco	7264	DR49J7	Rear
		Y	Endevco	7264	DW34JC	Left
		Z	Endevco	7264	AGRF4	Up
2	Left front sill	X	Endevco	7264	AGRG7	Front
		Y	Endevco	7264	CR59H	Right
3	Right front sill	X	Endevco	7264	CR26H	Rear
		Y	Endevco	7264	DY61J	Left
4	Left rear sill	X	Endevco	7264	CP90H	Rear
		Y	Endevco	7264	CM27H	Left
5	Right rear sill	X	Endevco	7264	AC861	Front
		Y	Endevco	7264	ACCJ0	Right

Sign Convention

All Dummy, Barrier And Vehicle Channels:

+X: Forward

+Y: Leftward

+Z: Upward

+Force: Tension

DOT LIBRARY
00302582